

MINISTRY OF AVIATION

REPORT OF
THE COMMITTEE ON CIVIL AIRCRAFT
ACCIDENT INVESTIGATION AND
LICENCE CONTROL



LONDON
HER MAJESTY'S STATIONERY OFFICE
1961

The estimated cost of the preparation of this report is £193 1s. 2d. of which £105 10s. 0d. represents the estimated cost of printing and publishing the report.

2, Essex Court,
Temple,
London, E.C.4.

23rd December, 1960.

The Rt. Hon. Peter Thorneycroft, M.P.,
Minister of Aviation.

Sir,

I have the honour to submit to you the Report of the Committee on Civil Aircraft Accident Investigation and Licences Control, of which I was appointed Chairman by your predecessor when he set up the Committee on 27th November, 1959.

As you will see, the Report is unanimous.

I have the honour to be, Sir,
Your obedient Servant,

David Cairns

REPORT
OF
THE COMMITTEE ON CIVIL AIRCRAFT ACCIDENT
INVESTIGATION AND LICENCE CONTROL

THE HON. MR. JUSTICE CAIRNS (Chairman)
W. L. HEYWOOD, C.B.E.
P. G. WASSFIELD, M.A. (Eng.), F.R.Ae.S.
H. C. I. ROGERS, M.A., M.I.Mech.E.
SIR FREDERICK TYMMS, K.C.I.E., M.C., F.R.Ae.S.
E. J. MARTIN }
W. C. BECKETT } Joint Secretaries

CONTENTS

<u>PART I - INTRODUCTION</u>	<u>Para.</u>	<u>Page</u>
Constitution of Committee	1	1
Procedure followed	2	1
Previous committees on accident investigation	4	1
<u>PART II - SCOPE OF INQUIRY</u>		
Interpretation of terms of reference	6	2
<u>PART III - PRESENT LAW AND PRACTICE GOVERNING ACCIDENT INVESTIGATION</u>		
Statutory provisions	12	3
Accidents Investigation Branch	15	3
Inspectors' Investigations	18	4
Public Inquiries	21	5
Publication of Reports	24	6
Accidents to British registered aircraft abroad	25	6
<u>PART IV - SOME CRITICISMS OF THE PRESENT SYSTEM OF ACCIDENT INVESTIGATION</u>		
Inspectors' Investigations	26	7
Public Inquiries	33	8
Independence of Accidents Investigation Branch	38	8
<u>PART V - ACCIDENT INVESTIGATION PROCEDURE ABROAD</u>		
United States of America	42	11
Australia	45	11
France	49	12
Germany	51	12
<u>PART VI - ACCIDENT INVESTIGATION IN OTHER FIELDS</u>		
Railway Accidents	55	14
Shipping Casualties	58	14
<u>PART VII - POSSIBLE CHANGES IN ACCIDENT INVESTIGATION PROCEDURE</u>		
Definition of an accident	61	16
Purpose of accident investigation	62	16
Separation of Accidents Investigation Branch from the Ministry	63	16
Closer link between AIB and Directorate of Aviation Safety	65	17
Air Safety Organisation	67	17
Accidents investigated	68	18
Preparation of Report on Inspector's Investigation	70	18
Investigation of accidents by operators	71	19
Dissemination of safety information	72	19
Air Safety Committees	76	21
Investigating teams for major accidents	79	21
Preliminary Investigations and Reports	80	22
Blameworthiness	82	22
Review Tribunals	86	23
Composition of Review Tribunals	91	24
Appeal from the findings of a Review Tribunal	92	24
Re-opening of Inspector's Investigation	93	25
Public Inquiries	94	25

<u>PART VII (Continued)</u>	<u>Para.</u>	<u>Page</u>
Recruitment of Inspectors and Investigating Officers	108	28
Accidents to military aircraft	110	28
Medical participation in Accident Investigations	111	28
 <u>PART VIII - SUBJECTS RELATED TO ACCIDENT INVESTIGATION</u>		
ICAO and Annex 13	113	30
Representation at foreign inquiries	114	30
Accidents occurring in Scotland and Northern Ireland	117	31
Colonies	119	31
Accidents abroad to British manufactured aircraft	120	32
Coroners' Inquests	122	32
Prosecutions	127	33
 <u>PART IX - PRESENT LAW AND PRACTICE GOVERNING LICENCE ACTION</u>		
Statutory provisions	131	34
Minister's power to revoke, suspend or vary a licence	133	34
 <u>PART X - EXAMINATION OF PRESENT LICENSING SYSTEM</u>		
Circumstances in which licence action may be taken	136	35
Purpose of licence action	138	35
Persons who may hold a licence	139	35
Due Inquiry	141	35
 <u>PART XI - POSSIBLE CHANGES IN LICENSING PROCEDURE</u>		
Right of appeal and Appeal Boards	143	37
Appealable Issues	144	37
Provisional Suspension	145	37
Composition of an Appeal Board	146	37
Representation before Appeal Board and Form of Decision	147	38
Appeal against licence action following a foreign accident investigation	148	38
Miscellaneous points on licence suspension	149	38
 <u>PART XII - SUMMARY OF RECOMMENDATIONS</u>		
Recommendations	153	39
 <u>PART XIII - FINAL OBSERVATIONS</u>		
Final observations	154	43
 <u>PART XIV - ACKNOWLEDGMENTS</u>		
Acknowledgments	157	44

PART I

INTRODUCTION

Constitution of Committee

1. We were appointed on the 27th November, 1959, with the following terms of reference:-

"To inquire into the law and practice:-

- (a) governing investigations of accidents occurring in the United Kingdom to civil aircraft and elsewhere to civil aircraft registered in the United Kingdom; and
- (b) governing the conditions under which licences granted by the Minister of Aviation to persons to act as members of the flight crew of civil aircraft or as aircraft maintenance engineers or aircraft radio maintenance engineers, or any privilege conferred by such a licence, may be cancelled, suspended or varied and the conditions under which a person who is medically and technically qualified to hold or exercise such a licence or privilege may be refused a grant or renewal thereof,

and to make recommendations."

Procedure followed

2. Our first meeting was held on 1st January, 1960, and we held thirty three meetings altogether.

3. A number of persons and organisations were specially invited to submit comments on the present law and practice, and a general invitation to submit comments was issued through the Press. As was to be expected, many similar points were made by more than one witness. It did not prove necessary to ask all those who submitted memoranda to give oral evidence in addition. In all we took oral evidence from 40 witnesses (including representatives of 12 organisations and bodies), and written evidence was received from 49 witnesses. A list of witnesses is at Appendix A.

Previous Committees on Accident Investigation

4. Two Committees have previously inquired into the accident investigation procedure in the United Kingdom: the Shelders Committee which reported in 1945 and the Newton Committee which reported in February 1948.

5. The Shelders Committee was a departmental body whose report was not published. We have given due consideration to this Committee's observations and recommendations. The Newton Committee reviewed the history of accident investigation in the United Kingdom and the relevant legislation up to that time. It did not consider matters relating to licences. We have given careful consideration to the Newton report (Cmd. 7564) and the memorandum by the then Minister of Civil Aviation which was attached to it.

PART II

SCOPE OF INQUIRY

Interpretation of Terms of Reference

6. We have interpreted the word "accidents" in the light of the definition given in Regulation 1 of The Civil Aviation (Investigation of Accidents) Regulations, 1951. This states that an accident "includes any fortuitous or unexpected event by which the safety of an aircraft or any person is threatened".
7. Although under this definition occurrences in which no actual damage or injury takes place are included in "accidents", in common parlance a distinction is made between "accidents", when damage or injury occurs and "incidents" which involve only a hazard and no damage or injury. We have considered minor accidents and incidents as well as those accidents which, under the Regulations, must be notified to the Minister. Accidents which are required to be notified are those in which any person has suffered death or serious injury or in which the aircraft has received substantial damage.
8. In considering the investigation of accidents occurring abroad to British registered aircraft, we have borne in mind the obligations imposed by Annex 13 to the Convention on International Civil Aviation (see paragraph 113). We have concerned ourselves with foreign law and practice only where we wished to compare the foreign system with our own.
9. Although under The Air Navigation (Investigation of Combined Military and Civil Air Accidents) Regulations, 1959, an accident involving a military aircraft taking off from, or landing at, a civil aerodrome may be subject to investigation by the Chief Inspector of Accidents, we have considered these Regulations only as they would affect an accident in which a civil aircraft was involved.
10. Whilst our terms of reference, literally interpreted, might bring within our competence the question of suspension of a licence on medical grounds, this question, apart from the cases dealt with under Article 16 of The Air Navigation Order, 1960, is not likely to arise during the currency of a licence and, if it did, we see no reason why it should be dealt with differently from that of refusal to grant or renew a licence on medical grounds which is a matter clearly excluded from the field of our inquiry.
11. As our terms of reference covered two subjects which are not necessarily related (licence action may follow an accident but it may also be taken when the licence-holder has not been involved in an accident), the two subjects are dealt with separately, the first in Parts III to VIII and the second in Parts IX to XI.

PART III

PRESENT LAW AND PRACTICE GOVERNING ACCIDENT INVESTIGATION

Statutory Provisions

12. Section 10 of the Civil Aviation Act, 1949, empowers the Minister of Aviation to make Regulations providing for the investigation of aircraft accidents either occurring in or over the United Kingdom or occurring elsewhere to British aircraft registered in the United Kingdom. In so far as such Regulations relate to military as well as civil aircraft they are required by the Section to be made jointly by a Secretary of State and the Minister. The Civil Aviation Act, 1949, being a consolidation act, it is noted that Section 10 was previously to be found as Section 12 of the Air Navigation Act, 1920.

13. In exercise of the powers conferred by Section 10 the Minister has made The Civil Aviation (Investigation of Accidents) Regulations, 1951, which govern the investigation of accidents affecting only civil aircraft. Acting jointly with the Secretary of State for Air, the Minister has also made The Air Navigation (Investigation of Combined Military and Civil Air Accidents) Regulations, 1959, which govern the investigation of accidents occurring to military aircraft where a civil aviation element is involved, and to civil aircraft in circumstances where there is a military element. The procedures established by the latter Regulations are substantially the same as those under the former, the principal modifications being those necessary because there are two Ministers involved. For these reasons and because they relate partly to matters outside our terms of reference as previously mentioned, the 1959 Regulations are not considered separately in this report. Throughout the report where Regulations are mentioned the reference is to the 1951 Regulations unless otherwise stated.

14. The Regulations require the appointment of Inspectors of Accidents, one of whom is appointed Chief Inspector of Accidents. The Regulations then provide for two alternative forms of investigation of aircraft accidents: an investigation in private by an Inspector of Accidents, and one held in public, known as a Public Inquiry, by a legally qualified chairman assisted by technical assessors appointed by the Lord Chancellor. Whether or not a Public Inquiry is held is a matter for the decision of the Minister, but if one is not directed to be held it is for the Chief Inspector of Accidents to decide whether or not there should be an investigation by his Branch and, if so, whether it should be undertaken by himself or by one of his Inspectors.

Accidents Investigation Branch

15. For the purpose of these investigations the Minister has appointed a Chief Inspector of Accidents and a number of Inspectors. At the present time there are, in addition to the Chief Inspector, a Deputy Chief Inspector and ten Inspectors who are assisted by eleven Investigating Officers who concern themselves primarily with the technical examination of wreckage. All of these together constitute the Accidents Investigation Branch of the Ministry. The present composition of the Branch is given below. Where the number of officers is not up to establishment, this is indicated by an asterisk:-

	<u>In Post</u>	<u>Establishment</u>
Chief Inspector of Accidents	1	1
Deputy Chief Inspector of Accidents	1	1
Principal Inspectors	2	2
Senior Inspectors	5*	7
Inspectors	3*	4
Chief Investigating Officer	1	1
Senior Investigating Officers	9	9
Investigating Officers	1*	2
	<hr/> 23 <hr/>	<hr/> 27 <hr/>

The annual cost of the Branch is approximately £81,700.

16. For the purpose of carrying out their investigations, Inspectors are given similar powers to those conferred by statute on Inspectors in other fields such as Railway Inspectors and Ministry of Transport Marine Surveyors. These powers relate to requiring the attendance of witnesses, the production of documents, taking statements and having the right to enter and inspect premises. The Investigating Officers are appointed "Inspectors" for the purpose of the Regulations and therefore have the same statutory powers as an Inspector but are not in practice referred to as such.

17. The Chief Inspector is entitled to investigate an accident whether it is notifiable or not, and many accidents which are not notifiable come to his notice but, in practice, very few accidents have been investigated other than those which are required to be notified. Between 1st January, 1952, and 31st December, 1959, 850 accidents, of which 197 occurred abroad, were notified under the Regulations. So far as is known, all notifiable accidents were in fact notified. During this period, 72 accidents were investigated under the Regulations - 56 by Inspectors' Investigations and 16 at Public Inquiries. Loss of life occurred in 91 of those accidents which were notified as having occurred in the United Kingdom and, of these, 45 were investigated either by Inspectors' Investigations or at Public Inquiries. In this period of eight years there were thus 45 accidents in this country which involved loss of life which were not investigated under the Regulations.

Inspectors' Investigations

18. An Inspector's Investigation is required to be held in private and in practice there is no formal hearing at which evidence is received although this would appear to be permissible under the Regulations. When the Chief Inspector has decided that an accident requires investigating a team from the Accidents Investigation Branch is sent immediately to the scene of the accident and the investigation proceeds forthwith. The team usually consists of an Inspector and one or more Investigating Officers. The Inspector is responsible for the overall conduct of the investigation and in particular for taking statements from witnesses and for obtaining evidence on operational matters appertaining to the accident. The Investigating Officers are responsible for examining the wreckage and advising the Inspector on engineering matters. Public notice that an investigation is taking place is required to be given and any persons interested who desire to make representations concerning the circumstances or causes of the accident may do so in writing within fourteen days of the notice. Representations are, however, seldom made.

19. Unless the Minister has already decided to direct a Public Inquiry to be held a preliminary report is submitted by the Chief Inspector as soon as possible to assist him in deciding whether or not to do so. A copy of the preliminary report

is also sent to the Attorney General who under the Regulations is entitled to intervene in an investigation in the public interest in order to make representations or to examine witnesses. Should the Minister decide not to order a Public Inquiry the Chief Inspector continues his investigation and upon completion makes a report to the Minister which according to the Regulations is required to state "the circumstances of the case and his conclusions as to the cause of the accident, adding any observations and recommendations which he thinks fit to make with a view to the preservation of life and the avoidance of similar accidents in the future".

20. An important provision in the Regulations as to the conduct of an Inspector's investigation is that contained in Regulation 7(5) which affords to a person who may be blamed in any degree for the accident the right to make a statement or give evidence and produce witnesses and to examine any witnesses from whose evidence it appears that he may be blameworthy. This Regulation does not lay down any procedure whereby the Inspector is to give effect to its provisions but following criticism of the way the provision had been implemented the Minister in a statement in the House of Commons on 29th July, 1959, announced a procedure, which is now followed, intended to clarify the position and avoid any ambiguity as to the rights of the person concerned. This statement sets out the standard letter which the Chief Inspector is to send to a person advising him that he may be held blameworthy, giving the reason why blame is likely to be attributed to him and stating the rights he is entitled to exercise. Such a person is entitled to make representations either in writing or at an interview or interviews with the Inspector at which he may have legal and expert advisers present and may produce and examine witnesses. In his report to the Minister the Chief Inspector is required to make a statement summarising the manner and extent of compliance with the provisions of this Regulation.

Public Inquiries

21. Where the Minister directs a Public Inquiry to be held the matter is remitted to the Attorney General and, thereafter, the preparation of the case for the Inquiry is conducted by the Treasury Solicitor under the direction of the Attorney General. The Chief Inspector completes the technical side of the investigation, and makes his findings available to the Treasury Solicitor. He is also required to render all possible assistance to the Court and the Attorney General. The Inquiry is held by a Commissioner appointed by the Lord Chancellor and referred to in the Regulations as "the Court". The Commissioner is usually a Queen's Counsel and he is assisted by assessors, usually two in number, of whom one is invariably a pilot.

22. The procedure laid down by the Regulations for the holding of a Public Inquiry requires a notice of the Inquiry to be served upon the parties and this has to include a statement of the questions which the Attorney General intends to raise at the hearing. After the production and examination of witnesses on behalf of the Attorney General, the parties are entitled to cross-examine and to address the Court and produce and examine witnesses.

23. The Court reports to the Minister stating the circumstances of the case and its opinion of the causes of the accident and is empowered to add any observations which it thinks fit to make with a view to preservation of life and the avoidance of similar accidents, including a recommendation for the cancellation, suspension or endorsement of any licence or certificate. In practice the Court has never been asked any questions about subsequent action over licences or certificates and no recommendation has ever been made as to their cancellation, suspension or endorsement. The assessors must either sign the report or record their dissent. All reports so far made have had the concurrence of the assessors.

Publication of Reports

24. The Regulations provide in the case of an Inspector's Investigation that "the Minister may cause the whole or any part of such report to be made public in such manner as he thinks fit" and in the case of a Public Inquiry that "the Minister shall unless there are good reasons to the contrary cause any such report to be made public wholly or in part in such manner as he thinks fit." In 1948 Lord Fakenham, then Minister of Civil Aviation, stated (in his memorandum published with the Newton Report) that his practice in the matter of publication of reports would be to publish all reports of Public Inquiries unless there were difficulties on security grounds, or where a foreign aircraft was involved and the agreement of the foreign government had first to be obtained, or where it appeared likely that criminal proceedings might be instituted and that publication might be prejudicial to the interests of the accused. With regard to Inspectors' Investigations the Minister stated at the same time that, subject to the same exceptions, reports would be published in respect of accidents occurring to British aircraft operating scheduled journeys or engaged on charter in all cases where death or serious personal injury had occurred, or where useful lessons might be learned in connection with the practice of flying, technical development of aircraft construction, or where other special features were present. Subject to the above provisos we have been informed by the Ministry that the normal practice is to publish all reports except those which do not appear to be of public interest. During the period 1st January, 1952, to 31st December, 1959, 72 accidents were investigated, 56 by Inspectors' Investigations and 16 at Public Inquiries. Of the 56 Inspectors' reports, 17 were published; all the reports resulting from Public Inquiries were published.

Accidents to British registered aircraft abroad

25. Accidents occurring to United Kingdom registered aircraft overseas may be investigated under the Regulations. With regard to accidents occurring abroad, however, Article 26 of the Convention on Civil Aviation, 1944, and Annex 13 to that Convention (which contains the Standards and Recommended Practices relating to aircraft accident inquiries), impose an obligation on the State in which the accident occurs to institute an inquiry or investigation into the circumstances of the accident. Such State is made responsible for conducting the inquiry, although there is provision in the Annex for delegation of the whole or part of the conduct of the inquiry to the State of Registry of the aircraft. When an inquiry is held abroad into an accident affecting a United Kingdom registered aircraft an Inspector of the Accidents Investigation Branch, whenever the practice of the investigating State permits, attends the proceedings in accordance with the provisions of the Annex, as an accredited representative. Article 26 of the Convention applies to accidents defined in such terms that they cannot be identified until after the cause of the accident has been determined. Moreover, not all States have accepted all the Standards and Recommended Practices of Annex 13.

SOME CRITICISMS OF THE PRESENT SYSTEM
OF ACCIDENT INVESTIGATION

Inspectors' Investigations

26. The Chief Inspector of Accidents may investigate, or cause an Inspector of Accidents to investigate, any accident whether or not it is one of which notification is required. The decision as to whether a particular accident is to be the subject of an Inspector's Investigation thus rests with the Chief Inspector, and to enable him to decide this question it is sometimes necessary for a preliminary investigation to be made.
27. At present the Regulations contain no specific provision for a preliminary investigation although it is clear that additional information may often be necessary before the Chief Inspector can decide whether to investigate or not or, sometimes, whether to advise the Minister that a Public Inquiry should be held. Under the present Regulations the powers given to an Inspector to enable him to carry out his investigation appear to become effective only when it has been decided that a full investigation is to take place and public notice has been given in accordance with Regulation 6(3). The Chief Inspector has represented to us that these powers should apply equally to an Inspector engaged in a preliminary investigation.
28. The principal difference between what may be termed a "full" Inspector's Investigation and the preliminary investigation is that a preliminary investigation may not consist of more than a few routine enquiries and the public notice required under Regulation 6 may not have been given. A preliminary report is prepared when the preliminary investigation has been made. It states all the known facts regarding the accident and the circumstances in which it occurred. Often the preliminary report discloses the main cause of the accident and the final report only confirms this. Doubts have been expressed as to whether a preliminary report serves any useful purpose. Alternatively it has been suggested that a preliminary report should have a simpler form than is now customary, and should be produced at an earlier stage.
29. Apart from the question of whether the circumstances of an accident are such as to justify the investigation proceeding beyond the preliminary stage, it is not practicable for the Accidents Investigation Branch to investigate every notifiable accident, much less every accident. At present, only a very small proportion of notifiable accidents are the subject of full investigation. (See paras. 17 and 68).
30. When the investigation reaches the stage at which the report can be drafted, or sometimes earlier, it may become apparent that blame for the accident may be attributed to someone. In such cases, the Inspector is charged with the responsibility, under Regulation 7(5), of giving notice to the person concerned that blame may be attributed to him and, if it is practicable, of permitting him to "make a statement or give evidence and to produce witnesses and to examine any witnesses from whose evidence it appears that he may be blameworthy". If the person likely to be blamed is deceased, his representatives have similar rights.
31. It is clear that provision should be made for any person, to whom blame may be attributed in the report, to have the protection of some procedure enabling him to state his case and to contest the evidence affecting him. The present procedure is, however, somewhat difficult for the Chief Inspector to administer. This procedure has in the past been the subject of a good deal of criticism, particularly in the case of Captain W. H. Hankin who was Captain of a Viscount which crashed at Prestwick on 28th April, 1958. Captain Hankin was not satisfied that he had been

given sufficient opportunity to contest the evidence which affected him. His case gave rise to prolonged discussion in Parliament and as a result of the criticism of the procedure the Minister announced that it would be clarified pending the results of our inquiry. (See para. 20).

32. On completion of the Inspector's investigation the Chief Inspector's report is submitted to the Minister, after any representations made under Regulation 7(5) have been considered. The decision as to whether the report or any part of it is to be published rests with the Minister under Regulation 8. Representations have been made to us that all reports should be published. While this is the practice in the case of accidents investigated at Public Inquiries it is not so in the case of investigations conducted by the Chief Inspector although, where reports are not published, it is the practice for those directly concerned to receive a copy. Steps are also taken to ensure that any lessons to be learned from the investigation are brought to the attention of others who could benefit. It is universally agreed that reports should be prepared as expeditiously as possible and that information relevant to safety should reach those who can give it practical application at the earliest possible moment. We have throughout had this aim in mind.

Public Inquiries

33. A Public Inquiry into an accident is held when it appears to the Minister to be expedient. In deciding, the Minister is guided by a number of factors among which are the following: whether the accident was likely to disturb public confidence either in the safety of travel by air or in the manner in which the functions of the Ministry or the operator are being conducted; whether there was a reckless disregard for the lives of persons or their safety, or a high degree of carelessness; whether a Public Inquiry is more likely than a private one to establish the cause of the accident; and whether such measure of blame may be attributed to an individual as to prejudice his career.

34. It has been suggested to us that the application of the criteria used at present has resulted in the holding of too many Public Inquiries. They take up the time of busy people, are costly to the public purse and to private pockets and, it is said, may be damaging to the aircraft industry because they highlight the risks of flying and create in the public mind the feeling that air travel is a far more hazardous thing than it really is.

35. Others have, on the contrary, suggested that all accident investigations should be held in public or at least that a person who is likely to be blamed should have the right to demand a Public Inquiry.

36. There have been no major criticisms of the procedure followed at Public Inquiries.

37. The Regulations provide that when a Public Inquiry is ordered the Attorney General, the owner, the operator, the hirer, the person in command and any other person upon whom a notice of inquiry has been served, shall be deemed to be parties to the proceedings and we refer to our consideration of changes in this and other practices in Part VII.

Independence of Accidents Investigation Branch

38. The Chief Inspector has complete independence in the sense that it is for him to decide whether or not an accident should be investigated by his Branch (except where a Public Inquiry is directed) and he is subject to no interference in the conduct of the investigation and the preparation of his report. He is however responsible to the Minister of Aviation, who appoints him and his Inspectors and to whom reports of investigations are required to be made. This relationship between

the Minister and the Accidents Investigation Branch has been severely criticised by witnesses who have given evidence before us, in particular by the British Air Line Pilots Association and by the Society of Licensed Aircraft Engineers. It was also a matter which was given considerable attention by the Newton Committee, who reached the conclusion that the system should be radically changed and recommended the complete separation of the Accidents Investigation Branch from the Ministry and the establishment of an independent Civil Air Accident Board. This recommendation was not accepted by the Minister.

39. Criticism of the present relationship between the Chief Inspector and the Minister is mainly based on the fact that the safe operation of aircraft is directly affected by the efficient and correct handling of facilities owned and staffed by the Ministry. Apart from the provision of aerodromes generally, these facilities include such important services as Air Traffic Control, Telecommunications, Radio Aids to Navigation, Approach Lighting and Instrument Landing Systems. (Meteorological services are also provided by the Government but the responsibility for these rests with the Secretary of State for Air). Arising out of these activities the Ministry is likely to be, and on occasion has been, an interested party in air accident investigations. The critics of the present system contend that when such an occasion arises, the Inspector of Accidents as an employee of the Ministry is placed in an invidious position and that his findings are likely to be biased in favour of his Ministry colleagues. Other critics emphasise the anomalous position of the Minister, who has to answer in Parliament both for the conduct of his Inspectors in investigating an accident and for those of his staff who may be involved. For these reasons, it has been strongly represented to us that the Chief Inspector and his Branch should move to another Government Department or be responsible to an independent statutory board.

40. We have noted the arguments against any such transfer set out in the Minister of Civil Aviation's statement attached to the Newton report and we have particularly sought the views of the Government Departments suggested by various witnesses as possible locations for the Accidents Investigation Branch. These Departments - the Lord Chancellor's Department, the Law Officers and the Home Office - each hold the view that their particular Department would not, in any event, be appropriate for the Accidents Investigation Branch, and they are all in favour of maintaining the present position. The Ministry of Aviation is of the same opinion inasmuch as it is considered that the Branch would be hampered by separation and would lack the contact with aviation matters generally which is essential to the proper discharge of its functions. If another Department were to be responsible for accident investigation it is contended that its officers would still be dependent for technical advice on the Ministry of Aviation and therefore that the separation would be more apparent than real. Several other bodies, including BOAC, BEA and the Guild of Air Pilots and Air Navigators, told us that they oppose the separation of the Accidents Investigation Branch from the Ministry.

41. It has been contended that if it could be brought home to the public that the Chief Inspector is in practice completely independent of departmental control any public disquiet would be allayed. Various means of emphasising this independence have been suggested. One is that the office of Chief Inspector should be provided for by Statute instead of in Regulations and that the Statute should lay down his principal powers and duties. Another suggestion is that the Accidents Investigation Branch should be geographically separated from the Ministry. To the first proposal it may be answered that, the office of Chief Inspector being already in existence, and the Minister being responsible to Parliament for the Regulations he makes, to incorporate the provision in an Act of Parliament at this stage would be a change of form rather than of substance and would make little impact on the public mind. To the second proposal there is the answer that for practical purposes it is highly convenient that the Inspectors should have easy and rapid access to Ministry personnel and Ministry files. If there were geographical separation it would still

be necessary for the Branch to keep in close touch with the Ministry, for otherwise investigation would be hampered and safety work impeded. The removal of the Branch to another address would be a detriment to its work, and whether the public would feel any more assured of its independence would be problematical.

PART V

ACCIDENT INVESTIGATION PROCEDURE ABROAD

United States of America

42. In the United States of America accident investigation is the responsibility of the Civil Aeronautics Board. The Federal Aviation Agency is also responsible for inquiring into accidents with a view to determining whether any of its employees, such as an Air Traffic Control Officer, or any of the services for which it is responsible, is at fault. The CAB and FAA are separate bodies established under the Federal Aviation Act, 1958; in order to avoid two separate investigations, the FAA normally joins with the CAB in the investigation conducted by the latter. The relationship between the two with regard to accident investigation is further complicated by the fact that the CAB has requested the FAA to investigate accidents to fixed wing aircraft having a maximum authorized weight of up to 12,500 lb.

43. When an accident occurs, responsibility for the investigation rests with the CAB Bureau of Safety, which has a number of Regional Offices. In some cases the complete investigation may be handled by the Regional Office, but for major accidents specialists from the CAB in Washington D.C. are usually called in.

44. We have studied the American system with interest. The first important point to which we must call attention is one that has been commended to us, namely the separation of the responsibility for accident investigation from the executive Department responsible for operations. This, however, is made possible by a constitutional difference between the organisation of Government in the United States and that existing in this country. The CAB is responsible to the President for a number of functions relating to aviation; the FAA to the Secretary for Commerce. In this country the functions of both are vested in the Minister. Moreover, we recognise that the scale of operations in the United States and the circumstances under which these operations are carried out, are very different from, and the number of accidents in a year much greater than, those in this country. A notable feature of American aircraft accident investigation practice is the formation of a considerable team, including interested parties, who take part in the investigation. It has been suggested to us that this system increases the chances of ascertaining the cause of an accident and also gives a better opportunity to the various interested parties to obtain information that may be of assistance to them than is afforded in the United Kingdom. It is, however, recognised by those who have had experience of the American system that the team tends to become unwieldy and that the presence of investigators who have their own ends to serve may hamper the investigation. We discuss later the desirability of bringing in as assistants to Inspector persons with special knowledge or skill, who may be able to assist in discovering the truth, but we do not consider that a team on the American pattern could with advantage be introduced here.

Australia

45. The work of accident investigation in Australia is carried out by the Division of Air Safety Investigation, which is a branch of the Department of Civil Aviation. This Branch, however, is not solely concerned with accident investigation but also performs functions relating to air safety generally, such as the preparation of educational and statistical information on air safety and the recommendation of measures to improve safety standards. It is really an investigation and air safety advisory group within the Department of Civil Aviation.

46. Perhaps the most striking feature of the Australian system is the way in which incidents, as distinct from accidents, are treated. Incidents, which are defined separately in the Australian Regulations, are required to be notified and are the subject of investigation by the Division of Air Safety Investigation. Air Safety incident report forms are provided to all operators and pilots, who are encouraged to complete them in respect of any occurrence which might have affected safety margins even though the occurrence does not fall within the statutory definition of an incident. Great importance is attached to this system of dealing with incidents which, in the view of the Department of Civil Aviation, contributes much to the improvement of air safety.

47. So far as investigations are concerned the Australian system broadly resembles that employed in this country. There are two types of investigation, one carried out by an authorised Inspector and, at the Minister's discretion, one carried out by a Board of Accident Inquiry. Details of procedure are different from those in the United Kingdom and in particular we note that a Board of Inquiry only takes place after there has been an Inspector's Investigation and, as respects both types of inquiry, the Regulations provide that statements or disclosures made by a witness are not admissible in evidence against him in civil or criminal proceedings. Provision is made in the Regulations for the publication of reports of investigations and inquiries in much the same way as in this country but we are somewhat surprised to learn that in practice formal reports are not published. Where, however, it is deemed that a significant lesson is to be learned from the investigation, an article about it is prepared for inclusion in a quarterly journal which is published by the Division of Air Safety Investigation.

48. It is generally recognised that the Australian system of investigation is very efficient and the Australian accident record is a good one. The feature of the system which most impressed us was the wide range of occurrences which are notifiable and which are investigated.

France

49. In France there is an elaborate system of notification of accidents, incidents and 'operating irregularities', and of investigation by way of preliminary investigation, special technical inquiry and Commission of Inquiry. The first two types of investigation are both normally carried out under the control of the Head of the Aeronautical District in the territory where the accident occurred, but in case of difficulty the Secretary of State for Public Works, Transport and Tourist Traffic may step in. A Commission of Inquiry compares roughly to a United Kingdom Public Inquiry but the Commission may have some six or seven members (including a medical member) and there is no provision for it to sit in public or for its report to be published except to the 'Services concerned'.

50. The organisation of accident investigation is so different in the two countries that we do not consider that any part of the procedure in France could usefully be adopted in the United Kingdom. It is, however, worth while noting that the French 'Instructions' (which correspond roughly with our Regulations) begin with the statement 'Any abnormality in the functioning or operation of an aircraft, whatever the consequences, will produce lessons from which the safety of air navigation can be improved'. This is perhaps an overstatement but with the substitution of 'may' for 'will' we consider that it represents the right approach to the task of investigation.

Germany

51. The responsibility for the investigation of aircraft accidents in the Federal Republic rests with the Federal Aeronautical Office which is also responsible for the certification of aircraft. It is a Federal Agency which, although it reports to the Federal Minister of Transport, functions largely independently.

52. When an accident occurs, a preliminary investigation is made by the Inspector of Accidents and, in the case of an accident where the cause is clear, or its results are not serious, the investigation may be concluded at this stage. If the Inspector considers that a more extensive inquiry is necessary he may refer the problem to an Investigation Commission which consists of a Chairman and three Assessors. The Chairman is a Judge and one of the Assessors is the Inspector of Accidents; the other Assessors are a pilot and an aeronautical engineer. The Inspector of Accidents plays a prominent part in the Inquiry and endeavours to obtain findings in accordance with his own views. The Commission hears evidence in private as this is considered to encourage witnesses to speak more freely than they might do otherwise; it has no powers to compel the attendance of witnesses or to take evidence on oath. We are informed however that amendments to the legislation are under consideration which would change the present system and require evidence to be given upon oath.

53. We consider that in the type of case where a formal Inquiry is desirable, the advantages of a public hearing outweigh any possible reticence that witnesses may have (which in fact does not seem to have been observed at Public Inquiries here) and in our opinion it is better that at such an Inquiry the Inspector should merely present the facts known to him than that he should be a member of the tribunal or should contend for a particular result.

PART VI

ACCIDENT INVESTIGATION IN OTHER FIELDS

54. Inquiries broadly comparable with those into aircraft accidents are held in respect of railway accidents and shipping casualties. In both cases the procedure followed is long established and apparently satisfies the interests of the public and of the people directly involved. We therefore decided to examine the relevant law and practice to see whether, in our opinion, the railway or marine procedure, or any part of them, could with advantage be applied to civil aviation.

Railway Accidents

55. The Railway Regulation Act, 1871, requires a wide range of railway accidents, including any which result or might have resulted in loss of life or personal injury, to be reported to the Ministry of Transport. When it is decided that an accident should be investigated, the investigation is normally carried out by an Inspecting Officer who deals with each case as seems best in the circumstances. No statutory procedure is laid down but over the years a well recognised practice has become established. In an inquiry of this nature the Inspector does not hear evidence on oath and he is not bound by the strict rules of evidence. However, evidence is heard in public unless the circumstances are such that any railway servant may become involved in prosecution in connection with the accident. In this case the proceedings are conducted either wholly or partly in private.

56. If the circumstances warrant it, the Minister may direct that a Formal Investigation be held instead of the more usual inquiry by an Inspecting Officer. Such Formal Investigations are held only in exceptional circumstances and indeed it has not been considered necessary to hold one since the Tay Bridge disaster in 1879.

57. We have studied the railway procedure with interest as it is the result of so many years of experience in accident investigation. Although it clearly works well where railway accidents are concerned, we do not think it would be suitable for application to civil aviation. The investigation of an aircraft accident usually involves a much more prolonged and complex field investigation than a railway accident requires, far larger numbers of people may have to be questioned and extensive experiments and tests may have to be conducted. The simpler form of inquiry held by a Railway Inspecting Officer would not be adequate for establishing the cause of most aircraft accidents, nor would it satisfy the requirements of interested parties in those cases where a Public Inquiry is directed.

Shipping Casualties

58. Where a shipping casualty is considered of sufficient importance to warrant an inquiry - many minor accidents are not investigated at all - a Preliminary Inquiry is ordered. This Inquiry is held either by the local Customs Official, acting as Receiver of Wreck, or by one of the Ministry of Transport's Marine Surveyors. The report of the Preliminary Inquiry is confidential to the Minister and its contents are never divulged.

59. If as a result of the Preliminary Inquiry it is considered desirable in the public interest, or in the interests of British shipping, or if one of the ship's officers was in the Ministry's view culpable to the extent that his certificate should be cancelled or suspended, the Minister orders a Formal Investigation. The procedure for both Preliminary Inquiries and Formal Investigations is laid down in the Merchant Shipping Act, 1894, and in Regulations made thereunder. In the case of Formal Investigations this closely resembles that of a Court of Law. There is a right of appeal from the report on a Formal Investigation to a Divisional Court

of the Probate, Divorce and Admiralty Division of the High Court of Justice. In considering whether there should be any right of appeal to the High Court from any report following an aircraft accident we have borne in mind that there is no Division of the High Court which has experience in relation to aircraft corresponding to the experience of the Probate, Divorce and Admiralty Division in relation to shipping.

60. Although there is a close similarity between the procedure in marine Formal Investigations and that followed in Public Inquiries into aircraft accidents, in marine Formal Investigations the Court has the power to cancel or suspend a certificate of a Master, Mate or Engineer and often does so. Although the Court in a civil aviation Public Inquiry has the power to recommend the cancellation or suspension of a licence no Court has ever done so and, as we see it, should not be required to do so. It is our opinion that in civil aircraft Public Inquiries the interests of those who are parties to the proceedings, and the interests of the general public, will best be served if the Court is permitted to concentrate on the determination of the cause of the accident.

PART VII

POSSIBLE CHANGES IN ACCIDENT INVESTIGATION PROCEDURE

Definition of an Accident

61. Regulation 1 defines an accident as follows: "'accident' includes any fortuitous or unexpected event by which the safety of an aircraft or any person is threatened". This has the merit of including the full range of untoward events which may hazard the safety of an aircraft, or those on board, and we see no reason to change it. Regulation 3 defines an accident which is required to be notified as one in which any person suffers death or serious injury while in or upon the aircraft or by direct contact with the aircraft, or anything attached thereto, or in which the aircraft receives substantial damage. Regulation 1 states that "'substantial damage' includes any damage which necessitates the replacement or extensive repair of any major component". We have given some thought to the definition of a notifiable accident with a view to defining "substantial damage" more precisely. We have decided, however, that it would be impracticable to list the components which should be considered major components or to specify what constitutes extensive repair. The definition should be applied in a commonsense way so that any accident causing damage which has a significant effect on airworthiness should be regarded as notifiable.

Purpose of Accident Investigation

62. In our view it should be more widely appreciated that the main purpose of an accident investigation is to determine the cause, or causes, of an accident so that appropriate action, based on the findings, may be taken to avoid further accidents. Although this is implicit in the Regulations, which empower the Chief Inspector, or the Court at a Public Inquiry, to make recommendations with a view to "the avoidance of similar accidents in future" we do not consider that this should be left as a mere implication. We recommend therefore that the purpose of accident investigation should be stated explicitly in the Regulations. This purpose should be defined as the establishment of the cause, or causes, of an accident, and the making of recommendations aimed at the avoidance of similar accidents in the future.

Separation of Accidents Investigation Branch from the Ministry

63. We have received many views on the proposal that the Accidents Investigation Branch should be removed from the Ministry of Aviation. Before considering the arguments previously referred to on this subject (paras. 38 to 41) we feel it desirable that we should make it clear that, after careful inquiry, we are confident that no internal pressure has ever been brought to bear on the Chief Inspector as a result of his relationship with the Ministry. No witness (with one exception to which we can attach no weight) has impugned in any way the integrity of the Chief Inspector of Accidents or of any member of his Staff. We are satisfied that the work of the Accidents Investigation Branch is carried out conscientiously and with no bias in favour of the Ministry. We are confident that if any Ministry employees or services were found to be at fault this would be clearly stated in the report. This indeed occurred in the case of the accident to Viscount G-AOHU at London Airport on 7th January, 1960, for which blame was attributed in the Inspector's Report to Air Traffic Control Officers employed by the Ministry.

64. Although the transfer of the Accidents Investigation Branch to another Government Department or to an independent board might seem desirable in theory, we consider such a change to be in practice both unnecessary and undesirable. It is unnecessary because the Inspectorate have nothing to lose by reporting in a sense unfavourable to the Ministry if the facts so warrant, and it is undesirable for two

reasons. First, it would probably reduce the efficiency of the Accidents Investigation Branch because it is essential that the Branch should keep abreast of technical developments and this would be difficult if it were separated from the Ministry of Aviation and, secondly, accident investigation is only one aspect of air safety, the responsibility for which rests with the Minister both nationally and internationally. We believe that those who press for the separation of the Branch from the Ministry do so not because they fear that any actual corruption of the Inspectorate has ever occurred, or is likely to occur, but because they feel that a friendly relationship exists between the Inspectorate and technical staff of the Ministry which may on the one hand give the technical staff a better opportunity of presenting their point of view than is available to outside people, and on the other hand may make the Inspectorate reluctant to criticise those with whom they are on such friendly terms. We are satisfied that the Inspectorate do in practice maintain a certain aloofness from staff in other parts of the Ministry (indeed the criticism has been made that a rather more co-operative attitude on their part would facilitate safety measures). We consider that the real protection for the public lies in the tradition of independence rather than in a formal separation. For these reasons, we recommend that the Chief Inspector of Accidents and his Branch should not be divorced from the Ministry of Aviation but that the present relationship should continue. If, however, the Branch is to remain under the Minister, we consider it important that its real independence should be manifest. In paragraph 41 we referred to two proposals directed to this end but we do not think that either of them would be very effective. In our opinion the best means of ensuring that there is no suspicion of prejudice on the part of the Branch is to provide for the review of Inspectors' Reports, when required, by a tribunal entirely independent of the Ministry. This matter is the subject of specific recommendations in paragraph 86.

Closer link between A.I.B. and Directorate of Aviation Safety

65. We have considered a suggestion that the dissemination of information derived from accident investigation, and other necessary follow up action by the Directorate of Aviation Safety, would be made easier and quicker if the Directorate and the Accidents Investigation Branch were more closely linked in the departmental organisation, and both reported to the same senior officer. There is no doubt that action must be taken quickly after an accident to ensure, so far as may be possible, that a similar accident does not happen again, but we deprecate any change which might reduce, or appear to reduce, the degree of independence which the Accidents Investigation Branch now enjoys. Accordingly we recommend that the Chief Inspector should continue to report direct to the Minister as he does at present.

66. The Chief Inspector should however ensure that any information which might be of value to the Director of Aviation Safety is passed to him without delay and, furthermore, he should be kept informed of progress made with the investigation if the report is unavoidably delayed. While the decision whether to investigate an accident or not must remain with the Chief Inspector it is, in our view, important that, before deciding not to investigate, he should consider any representations made by the Director and we recommend that the Regulations should be amended to provide that the Chief Inspector should be charged, specifically, with ascertaining the views of the Director of Aviation Safety before deciding that an accident should not be investigated. We suggest this change because it may well be that the Director considers that investigation of a particular accident, which might not in itself appear to be worth investigation, would reveal evidence of a trend on which he could take remedial action. For the same reason we recommend that an accident report should, whenever appropriate, draw attention to previous accidents of a similar nature.

Air Safety Organisation

67. In considering the practice of accident investigation, we have felt compelled to consider what happens once the cause or causes of an accident have been

determined. This has been necessary in order to keep the purpose of accident investigation in proper perspective. It is not enough to have conducted a brilliant investigation and to have found the cause of what appeared to be a baffling accident; no effort must be spared to ensure that the same thing does not happen again. It is important that the information which becomes available should be circulated without delay to those directly concerned with the occurrence, and to others who may be able to make use of it. Any recommendations should be implemented with speed and vigour (unless found to be impracticable) and the Director of Aviation Safety should be responsible for seeing that this is done.

Accidents Investigated

68. Between 1st January, 1952, and 31st December, 1959, 653 accidents to civil aircraft were notified under the Regulations as having occurred in the United Kingdom. In this period, 72 accidents were investigated under the Regulations - 56 by Inspectors' Investigations and 16 at Public Inquiries. The number of accidents investigated appears to us to be too small a proportion of the total notified, although we recognise that some degree of inquiry was made into all of them and that it is not practicable for the Accidents Investigation Branch to investigate fully all notifiable accidents. Our reason for thinking that more accidents and incidents should be investigated is that we have found a widespread feeling to exist, among many categories of people concerned, that many accidents and incidents which were not investigated held useful lessons. A few instances have been brought to our notice where it seemed to us that an investigation might usefully have been held but was not. Obviously the matter must be one of general impression and no precise recommendation can be made as to the number of accidents that should be investigated each year. We consider however that it is in the public interest that more accidents should be investigated and recommended accordingly.

69. The Accidents Investigation Branch ought also to investigate the more serious incidents. An incident such as a near miss in controlled air space may be only marginally removed from a major tragedy and, because the crews involved are both available to say what happened, the lessons to be learned must often be valuable. We are aware that near misses are investigated by an inter-departmental committee. This arrangement should continue. We feel nevertheless that there may be scope for the expertise of the Accidents Investigation Branch, and their powers under the Regulations, in the investigation of the more serious near misses and possibly other serious incidents. We accordingly recommend that serious incidents should be investigated by an Inspector of Accidents.

Preparation of Report on Inspector's Investigation

70. The present practice is for a draft report to be prepared by the Inspector in charge of an investigation, for this draft to be submitted to a Principal Inspector and, after any necessary revision, to be considered by the Chief Inspector (or sometimes his Deputy), who discusses it with the Principal Inspector and the original Inspector and, after such further revision as he considers proper, signs the report. Some witnesses have suggested that it would be better if one Inspector remained responsible for a report throughout and, subject to discussion with and guidance from his Principal and the Chief Inspector, signed it himself. This, it is said, would save time and would ensure that the report represented the conclusions of the Inspector who had the closest knowledge of the whole of the facts reported on. The tendency has been for matters to be deleted from, rather than added to, a report in the process of revision and for a greater caution to be used in expressing conclusions than the original Inspector would have shown. The objections to allowing individual Inspectors to have the main responsibility for reports are that Inspectors, though well qualified technically (and it is of the utmost importance that they should have good technical qualifications and an understanding of modern technique) are not necessarily highly skilled in reporting; and

secondly that Inspectors sometimes have individual idiosyncracies which might lead them to stress one feature too much and another too little. In our opinion it is advisable that the final responsibility should rest with the Chief Inspector and that he or his Deputy should sign the report. But it is desirable that in selecting Inspectors attention should be paid to their ability in reporting; that every effort should be made to ensure that time is not lost while a draft report is awaiting consideration; and that no more revision should be made than is necessary to improve the form of the report and to keep a proper balance in presenting the conclusions.

Investigation of Accidents by Operators

71. We considered a suggestion that, where the Chief Inspector decides not to investigate an accident the operator should be required under the Regulations to do so. In most cases operators already investigate all accidents (in the widest sense) in which their aircraft are involved and the change which we had to consider was whether this should be made a legal requirement. We feel that it would be difficult to provide for this kind of requirement in Regulations. There would be difficulties in defining adequately both the occurrences which operators should investigate, and the extent to which they should investigate them. Moreover, while it is practicable for large operators to have a well organised investigation section it would be unduly burdensome to require small operators, flying clubs, etc. to maintain such a branch. The facilities available to the operator for investigating his own accidents should be a factor which the Chief Inspector of Accidents should take into account in deciding whether he should investigate any particular minor accident or incident. We have been informed by the Ministry that in fresh subordinate legislation about to be introduced, requiring operators to hold an Air Operator's Certificate granted by the Minister, it will be a condition that each operator has adequate air safety arrangements. One of the factors to be considered in deciding whether these arrangements are satisfactory will be the existence within the operator's organisation of machinery for reporting and investigating accidents and incidents. On the whole we consider it preferable to deal with the matter in this way rather than to impose a specific statutory requirement on operators to investigate accidents, particularly as the Minister is already empowered by the Regulations to require them to provide such information regarding an accident as he may by notice specify.

Dissemination of Safety Information

72. The obvious channel by which safety information derived from accident investigation can be publicised is the report, but whereas the reports of Public Inquiries are always published, this is not necessarily so with Inspectors' Investigations (see para. 24). We can understand that in some instances it may not be considered worth while to publish a report which contains no new information or for which there will be little or no demand. In principle however we consider that all reports of accidents should be made available to the public. We therefore recommend that, where it is decided for good reasons not to publish, the report should be available to any member of the public on demand, subject only to the qualifications regarding security or the interests of foreign governments referred to in para. 24. Furthermore, all reports should be available as soon as possible after the accident and no avoidable delay should be tolerated.

73. We were informed that if, in the course of the investigation, facts emerge which point to the need for urgent action, the Chief Inspector makes these facts known to those concerned so that action can be taken at once. We are firmly of the opinion that this practice should continue. In the case of an Inspector's Investigation, or a Public Inquiry, many factors of a technical kind relevant to safety may be brought to the notice of the Inspector or the Court. These may or

may not be relevant to the causation of the accident. Such facts should be given the widest possible circulation and the report should contain all relevant technical details, if necessary in the form of technical appendices. In particular, when a piece of equipment - either fitted in the aircraft, or part of a ground installation - is found to have been defective, the equipment and the nature of the shortcoming should be described in full. For example, we consider that the report of the Inspector's Investigation into the accident to Britannia G-AOVD at Christchurch, Hants, (CAP. 164) would have been more effective if it had contained more detail. Reference was made to a previous accident caused by a similar mis-reading of an altimeter, but we consider that more might have been said about the shortcomings of the type of altimeter fitted to the aircraft and that the manufacturer and type number should have been given. Photographs illustrating how the altimeter could be mis-read would also have been of more value than those of the wreckage. A recommendation that further research on a better altimeter presentation should be expedited would also have been appropriate.

74. If full benefit is to be derived from an accident investigation, it is important that the report should deal, not only with the immediate cause of the accident, but with any contributory cause or causes as well. Furthermore, if any unsatisfactory features come to light they should be reported, even if they had no bearing on the accident. In each case full details should be given and, wherever appropriate, recommendations should be made with a view to increasing safety in future. The consequences as well as the causes of an accident should be reported on, particularly where any lesson is to be learned which might reduce the loss of life, injuries or damage likely to result from a similar accident. Regulation 8 makes provision for the Chief Inspector to include recommendations and we consider it important that he should do so whenever he forms the view that any particular change in practice, or in the construction or equipment of aircraft, would increase safety.

75. We recommend therefore that accident reports should be more detailed. They should deal with all contributory causes as well as the immediate cause. Further, they should discuss shortcomings of equipment affecting safety whether these have been shown to be a cause of the accident or have been revealed incidentally during the course of the investigation. We recommend further that, where relevant, technical appendices on such matters should be attached to a report.

76. It is in the best interests of all engaged in civil aviation that experience should be shared. This of course is a wider issue than that of accident investigation but we have noted a gratifying willingness on the part of some operators, in particular British European Airways, to assist others by describing defects which have led to incidents or even accidents and how they have been remedied. The recent formation of the Transport Flight Safety Committee is a further step in the right direction and we should like to see this idea of an interchange of operational experience - between the Ministry, the operators, and others involved in air transport - further developed. We were impressed by the publication "Flight Safety Focus" which is prepared by the Transport Flight Safety Committee for the information of those concerned with air transport. It will prove a useful vehicle for the wider dissemination of safety information; this applies both to information which becomes available in the course of an investigation (of which those interested should be made aware without their having to wait for the report) and to the contents of reports themselves which should be summarised in a readable form for the benefit of those who have not time to read the report in full.

77. The annual Survey of Accidents published by the Ministry is a useful document but in our opinion it contains too few details. We consider that the method of classification employed, and the condensation necessary to describe the cause in a few words, results in contributory causes of the accident being obscured. The inclusion of the aircraft type and the place where the accident occurred would

increase the value of the survey. We recommend therefore that consideration be given to a change in presentation to expand the usefulness of the Annual Survey of Accidents published by the Ministry. In particular we recommend that this Survey should give more details of the accidents described in it.

Air Safety Committees

78. There appears to us to be a possibility that overlapping occurs between various committees concerned with air safety, such as those listed below:-

Air Safety Board

This Board was set up to give independent advice to the Minister on matters affecting air safety. Its members are distinguished persons having wide experience in aviation and the Chief Aeronautical Adviser to the Minister is Chairman.

Air Miss Working Group

When a pilot reports that his aircraft has been endangered in flight by the close proximity of another aircraft, the circumstances are investigated and recommendations made by this Group. Its members are representatives of the operators and of the interested Government Departments.

Transport Flight Safety Committee

This Committee is concerned with flight safety organisation, and its members are representatives of operators and others concerned with air transport. It advises on flight safety publicity within the industry.

Flight Safety Discussion Group

This group has a membership similar to that of the Transport Flight Safety Committee, with which it works closely. At its meetings, members discuss recent occurrences and exchange ideas on the lessons to be learned from them which can increase air safety.

All the above are concerned with air safety and we have no doubt that all do valuable work. We recommend however that the position should be reviewed to see whether there is any overlapping and, if there is, whether its elimination would lead to the more efficient promotion of safety in the air.

Investigating Teams for major accidents

79. It was suggested to us that an investigating team, including persons not members of the Accidents Investigation Branch, should be formed by the Chief Inspector and that certain organisations should automatically be included in the team. We do not accept either that the Chief Inspector should be obliged to form a team or that its composition should be pre-determined. Accidents are very various in kind and in circumstances and the best method of investigating any particular accident should be left to the discretion of the Chief Inspector. Nevertheless, the formation of a team to investigate an accident, particularly in a case which is likely to be complicated, either because of circumstances or because of the complexity of the aircraft involved, has much to recommend it, and we recommend that the Chief Inspector should be empowered to co-opt experts whenever he considers it to be necessary and practicable. If anything the pilot did, or left undone, is likely to call for investigation, a pilot with experience of the same type of aircraft and, if possible, the same route, should invariably be included in the team. We do not however accept a suggestion made by BALPA that the Association

should be entitled to select an appropriate pilot for the team. The selection of a team should be left to the Chief Inspector after such consultations as he thinks fit.

Preliminary Investigations and Reports

80. With reference to preliminary investigations, and to the representations made to us by the Chief Inspector (see para. 27) we agree with him that an Inspector should have the same powers in making a preliminary investigation as in a full investigation. Accordingly we recommend that the powers of an Inspector when conducting a preliminary investigation should be made clear in the Regulations.

81. In paragraph 28 we have referred to the report of the preliminary investigation. We have considered whether this preliminary report serves a useful purpose. We think that it does, in two ways: it provides material on which the Minister can decide whether a Public Inquiry is necessary and it is a convenient vehicle for making known at an early date matters in respect of which remedial action should be taken. For these reasons we recommend that a preliminary report should continue to be prepared, and that the Regulations should expressly provide for it. It should however be in a simple form and should be presented at the earliest possible moment. In perfectly straightforward cases arising from minor accidents the Preliminary Report might be treated as a Final Report and we recommend that the Regulations should provide accordingly.

Blameworthiness

82. The prime purpose of an accident investigation is to establish the cause or causes of the accident and most of the dissatisfaction with the present accident investigation system stems from the attribution of blame by an Inspector. It is often far more important that a defect in structure, equipment or operating system should be exposed - so that it may be remedied - than that any human error should be brought home to an individual. If somebody is grossly at fault he should be punished, but the object of accident investigation is remedial and not retributive. It is therefore usually more valuable to state the thing that was wrong than to identify the person who was responsible. If it were possible to report the findings of an investigation without attributing blame to anybody, even indirectly, we should be much attracted to the proposition that an Inspector's report should never attribute blame. We have given a lot of thought to this problem but have concluded that, if a report is to state clearly the cause or causes of an accident, it will, however written, in many cases point to a person having been at fault. Accepting this, we have had to consider how best to ensure that an Inspector shall be able to report fully and clearly and at the same time that anyone whom the Inspector considers blameworthy may have a satisfactory opportunity of challenging a finding to this effect before publication.

83. The procedure which was devised to this end was that under Regulation 7(5), which, as stated in para. 20, has been subject to considerable criticism. Where persons to whom blame has been attributed have availed themselves of their rights under this Regulation since the "clarification" there has been less criticism. However, the procedure tends to become somewhat protracted and because it occupies a good deal of the time of the Chief Inspector and the other Inspectors concerned, the report on the investigation is correspondingly delayed. This we consider to be undesirable. A further difficulty arises from the fact that those exercising their rights are often legally represented or advised and, although legal advice is also made available to the Chief Inspector by the Treasury Solicitor's Department, the Chief Inspector, understandably we think, would like to be relieved of the responsibility for a procedure which, not unnaturally, often assumes a distinctly legal character. The conduct of such a procedure calls, in our opinion, for legal training, and the Inspectors are not so qualified.

84. We do not consider it right in principle that the duty of reaching a final decision as to blameworthiness should be laid upon Inspectors with no opportunity for review. Moreover the procedure under Regulation 7(5) does not provide for the person concerned to have access to all available evidence and it takes place at a stage when the Inspector no longer has an open mind but has formed the tentative conclusion that the person may be blameworthy. We recommend that this procedure under Regulation 7(5) be discontinued and that a Review Tribunal be substituted for it. Such a new procedure will in no way remove from an Inspector the obligation of giving any person whose conduct is called in question in the ordinary course of an investigation an opportunity of presenting his point of view.

85. It is believed in some quarters that the Inspectors are biased in favour of the Minister and Ministry staff. It is also suggested that there is a tendency for an Inspector's report to blame an individual rather than an organisation or a piece of equipment. We think there is some substance in this second point and we emphasise again the necessity of bringing out clearly any fault of structure, equipment or organisation. We do not find that any suggestion of bias on the part of Inspectors is well-founded but we consider it important that any such suspicions should be allayed and that there should be adequate protection against any risk of bias occurring. This again would, we believe, be best achieved by a review procedure.

Review Tribunals

86. We recommend that provision be made for the setting up of independent Review Tribunals which will review the findings of an Inspector's Investigation at the request of any person or organisation having objections to any findings which affect him or it in the draft report. The Chairman of a Review Tribunal should be a Queen's Counsel and he should sit with two Assessors. All three should be appointed by the Lord Chancellor. This arrangement has worked successfully with Public Inquiries and should be equally suitable for this purpose. A Review Tribunal might, in fact, be regarded as a scaled down Public Inquiry having its attention focussed on a particular issue, although it would not always sit in public. We recommend that the Tribunal should be able to sit in private at the discretion of the Chairman, except that if the person concerned asks for a public hearing he should be given it. He should also have the right to be legally represented. The proceedings should however be kept as informal as possible. Every effort should be made by all concerned to prevent a Review from developing into anything as elaborate as a Public Inquiry.

87. As soon as it becomes apparent to the Chief Inspector that the report will attribute blame, even if only indirectly, the person or organisation concerned should be so informed. He should be shown the draft report when this is ready and be given the opportunity of asking for a review of the findings. In order to avoid unnecessary work on the part of the Tribunal we recommend that the Regulations should provide for costs to be awarded against any person who calls for a review on what, in the opinion of the Tribunal, are frivolous grounds or who is obstructive in the course of the review. If the person concerned decides not to ask for a review the Inspector's report can be published in the ordinary way, stating clearly the reasons why blame is attributed. If on the other hand a Tribunal is asked for, to review the case, we recommend that the report of the Tribunal only should be published. All the evidence collected by the Accidents Investigation Branch should be made available to the Tribunal but it should not be necessary for it to consider, or report on, the whole causation of the accident if the issue raised by the person asking for the review can be isolated.

88. The person blamed will already have seen the draft report and as soon as he has decided to ask for a review, all the relevant evidence should be made available to him.

89. The report of the Tribunal should state what representations were made by the person who asked for the review, whether accepted by the Tribunal or not, so that they will be on record. The form of the report will depend on the extent, if any, to which the Tribunal differs from the Inspector. If the Inspector's report is affirmed in full it can be set out in the Tribunal's report, together with a statement of any representations made, the reasons for not accepting them and any additional reasons supporting the Inspector's conclusions. If some small variations are made or if the Tribunal is only dealing with one or two issues which can be isolated then it may be convenient to set out the Inspector's report in full and indicate where the Tribunal takes a different view. If (as we believe would rarely happen) the Tribunal differs from the whole approach of the Inspector or considers that his report does not deal satisfactorily with the issues then it would probably be desirable that after stating such facts found by the Inspector as are not in dispute, the Tribunal should make its own findings and conclusions without indicating those of the Inspector.

90. We recommend that a Tribunal should be available to review only cases investigated by an Inspector. There should be no review of the findings of a Public Inquiry, or of a foreign accident investigation. In the case of a Public Inquiry, if someone is blamed in the report, he will already have had ample opportunity of calling and cross-examining witnesses, and all the evidence on which the findings were based will have been given in public. Furthermore, provision is made for a re-opening of the inquiry if new evidence becomes available. If a British subject were to be blamed unfairly in a foreign accident report, this would be unfortunate but we do not consider it desirable that a Review Tribunal should attempt to review the findings. This could not be done adequately since the Tribunal would not have access to all the evidence or all the witnesses. The possibility that this may happen must be accepted as an occupational risk in a profession which necessarily involves flying over foreign countries where the legal and accident investigation system may differ from our own. If, however, the Minister proposes to take action on a person's licence as a result of the foreign investigation, he would under our later proposals have a right of appeal.

Composition of Review Tribunals

91. As we have said in para. 86, the Chairman should be a Queen's Counsel and we recommend that he and the Assessors, who should have an appropriate technical aviation background, and one of whom should be a pilot of appropriate experience, should normally be selected from panels maintained by the Lord Chancellor. We suggest the maintenance of panels of suitable persons in order that those on the panel may gain experience of the problems involved in the review of accident investigations. This would, we consider, be preferable to choosing from a wider field on each occasion because this would result in valuable experience being dispersed and possibly lost to the Tribunal. Another advantage of such panels would be that they would help to enable a Tribunal to be assembled quickly. We recognise, however, that there may be occasions when it may be considered desirable to appoint as Chairman a Queen's Counsel not on the panel of Chairmen, or to appoint Assessors with particular experience who are not on the panel of Assessors, and recommend that the Regulations should provide for this.

Appeal from the Findings of a Review Tribunal

92. We consider that on questions of fact the decision of a Review Tribunal should be final. The evidence in most cases is highly technical and when it has been considered by the Inspector and then reviewed by a Tribunal we do not feel that a further right to review by the ordinary Courts of law is necessary or desirable. It is however important that the right of access to the Courts on legal matters should be maintained. We therefore recommend that provision should be made for a right of appeal to the High Court from the decision of a Review Tribunal, but only on a point of law. We do not foresee that such cases will often arise but consider

that the existence of the right of appeal would inspire greater confidence in the investigation procedure.

Re-opening of Inspector's Investigation

93. The Regulations make provision for the re-opening of a Public Inquiry in the event of new and important information becoming available. No such provision is made in the case of Inspectors' Investigations. We recommend that it should be, and that the Regulations should be amended accordingly. While it is no doubt desirable that finality should be achieved whenever possible, and as soon as possible, it is still more necessary that a report, which subsequent discoveries show to be substantially inaccurate or inadequate, should be amended after further investigation by the Inspector.

Public Inquiries

94. As we have pointed out in paragraphs 34 and 35, some people contend that too many Public Inquiries have been held while others hold the view that all accidents should be investigated at a Public Inquiry. There is force in both sets of contentions but they tend to cancel each other out. We consider that the holding of a Public Inquiry into every accident would involve an unjustifiable expenditure of time and money and that the protection of the interests of persons who may be blamed can be ensured without giving them the right to demand a Public Inquiry on every occasion. On the other hand we consider that the Public Inquiries held in the past have almost all served a useful purpose in giving the public full information about serious disasters, bringing to light grave derelictions of duty, or allaying public anxiety as to the prevalence of dangerous practices or faulty equipment.

95. We recommend that the decision whether to hold a Public Inquiry or not should continue to rest with the Minister. We consider that the criteria he has applied in the past are reasonable (but should be regarded as a guide rather than a rigid set of rules) and that the way in which the Minister's discretion has been exercised is not open to adverse criticism. If the number and type of accidents follows the same pattern in the future as in the past we consider that the proportion of Public Inquiries to the number of accidents in a given period should remain at about the same level. It has been suggested that the Minister should have power, if he thought fit, to direct a Public Inquiry on a particular issue or issues. We consider that such a power might be useful on occasion and recommend that it should be given.

96. Although the evidence we have considered has been to the effect that the procedure at a Public Inquiry is generally accepted as satisfactory, we have considered a number of detailed suggestions for changes, some of which we outline below. In relation to Public Inquiries, as in relation to Review Tribunals, we have considered whether there should be a right of appeal to the High Court and, for the same reasons as are indicated in para. 92, we recommend that there should be such a right of appeal on a point of law only.

97. When a Public Inquiry is ordered, the Attorney General, the owner, the operator, the hirer and the person in command are always made parties to the proceedings. Representations have been made that certain others such as pilots' organisations and insurers should automatically be made parties, but we do not consider the field should be widened. It is already open to any other person to apply to the Court for leave to appear, and any person who so appears becomes a party. In this connection it would be an advantage to those wishing to be made parties if they could apply in writing to the Court before the inquiry opens.

98. We recommend that provision should be made for the Court to consider written applications to be made a party at a preliminary hearing, at which, we suggest, the Assessors should be present. Applicants would then know from the outset whether they were to be parties and it would save time at the actual inquiry.

99. We also recommend that provision should be made for applications to be considered at the preliminary hearing for the admission without formal proof of any documents and that such applications should be freely granted unless opposed. Further, we recommend that parties should be allowed at the preliminary hearing to apply for inspection of any relevant documents in the possession of the Crown or of any other party. We do not propose any provision for discovery of documents upon affidavit or by lists, but in most cases the kinds of documents likely to exist will be well known and we should hope that Commissioners would readily order inspection to be given unless some good reasons for non-disclosure were advanced. A saving in time, both of the Court and of witnesses, would result if the Court could accept routine evidence e.g. with regard to the aircraft Certificate of Airworthiness, without requiring it to be proved in Court and direction as to this might be given at the preliminary hearing. The preliminary hearing should be informal in character and friendly discussion of the issues likely to arise at the Inquiry should be encouraged.

100. Assessors at Public Inquiries are appointed by the Lord Chancellor from a list of suitable names submitted to him by the Chief Inspector. It was suggested to us that a panel of names of persons suitable for appointment as Assessors would be useful. We agree, and recommend that the Lord Chancellor should maintain not only a panel of Assessors, but a panel of Queen's Counsel suitable for appointment as Commissioner. Those on the panels would be able to benefit from experience which would otherwise be too widely dispersed. The same panels might well be used both for Review Tribunals and for Public Inquiries. As with the Review Tribunal, and the Appeal Board which we deal with in Part XI, it may on occasion be necessary to appoint either the Commissioner or the Assessors from outside the panels and provision should be made for this. Under the existing Regulations, an Inspector can be appointed as an Assessor but this has never been done and we recommend that this provision be deleted.

101. The Court at present has power under the Regulations to make recommendations for the "cancellation, suspension or endorsement of any licence, certificate or other document" but it does not normally do so. We consider that Commissioners have been wise to refrain from making such recommendations. In our view, the Court should concentrate on determining the cause or causes of the accident and should not be concerned with action on licences or other documents, and we recommend that the power for the Court to make such recommendations should be deleted from the Regulations.

102. We recommend also that the Regulation which empowers the Court to order a party to pay the costs or part costs of the Inquiry because the accident was caused by negligence on the part of that person should be deleted. This power has never been exercised, and in our opinion a Public Inquiry should be regarded as an inquiry for the public benefit, and for which the public should pay, and not as a piece of litigation in which the "loser" should be mulcted in costs.

103. The suggestion has been made that at some Public Inquiries there has been room for criticism of Ministry employees (such as Air Traffic Control Officers) or of arrangements under Ministry control (such as airfield marking or lighting) but that no case against the Ministry has been presented, or effectively presented. This has been attributed either to a supposed tendency, when a case is presented on behalf of the Crown, to avoid criticising a Government Department; or to the fact that, if the Ministry is separately represented, counsel for the Attorney General, and for the Ministry are both instructed by the Treasury Solicitor. We are certain that the

Attorney General or any counsel appearing on his behalf would not hesitate to bring to the notice of the Court any relevant facts known to them, whether they reflected adversely on the Ministry or not; and we understand that within the Treasury Solicitor's Department different officers would be concerned with preparing the briefs for the Attorney General and the Ministry and they would be prepared quite independently. We have had no instance brought to our notice of any withholding of any facts which told against the Ministry and in so far as there may be anything in the point we regard it as a particular instance of the practice dealt with in the next paragraph.

104. Several of those who, as Queen's Counsel, have acted as Commissioners at Public Inquiries have told us that they felt that the case presented for the Attorney General was of too colourless a kind, giving only the bare facts and leaving it to the Commissioner to probe deeply in order to discover whether anybody was to blame for the accident. They would have preferred that definite allegations should be made against any person who might be considered to blame, and that searching questions should have been put on behalf of the Crown, allowing the Commissioner to play a more passive part in deciding between the rival contentions. In our view it is only in exceptional cases, where the cause of the accident is reasonably clear and there is evidence of a serious default on somebody's part, that the Crown should present an affirmative case and pursue it in a contentious manner against an individual or an organisation. In most cases the purpose of a Public Inquiry is to ascertain why an accident has happened and to try to avoid similar accidents in future. We think that counsel for the Crown fulfils his duty when he lays before the Court all the known facts that can have any bearing on the accident and indicates the way, or the various alternative ways, in which it may have happened. The Court should accept the inquisitorial role (assisted of course by counsel for both parties) of discovering the cause rather than merely the task of deciding between two or more contestants at arm's length.

105. We recommend that, in those exceptional cases when the Attorney General is in possession of information which suggests that a high degree of blame for an accident ought to be attributed to some person or organisation, then he should cause written notice of the allegation to be served before the Inquiry and he or his counsel should pursue the allegation at the Inquiry with all necessary vigour. In such cases it is clearly necessary that the alleged blameworthy person or organisation should have an opportunity at the Inquiry of making a defence and accordingly provision should be made for this in the Regulations. We think that Regulation 9(4) does make such provision although it may be doubted how far the word "charge" can be said to apply to any imputation of fault not amounting to a criminal charge. The wording of this Regulation is in substance a repetition of Section 466(11) of the Merchant Shipping Act, 1894. That Act, however, gives Courts investigating marine casualties certain penal powers which we do not recommend be given to Public Inquiries in the case of aircraft accidents and in our view therefore Regulation 9(4) should be amended to reflect this difference.

106. Among the questions put to the Court at Public Inquiries one in some such form as the following has always been put: "Was the accident due to or contributed to by the wrongful act or default of any party or by any person in the employ of that party?" Two objections have been raised to this question (apart from its grammar). One is that it is ambiguous, some Commissioners having considered any degree of negligence or misjudgment to constitute a default while others have considered that something morally blameworthy must be involved. The other objection is that the question tends to turn the Inquiry into a search for a "culprit" instead of concentrating on the cause of the accident. We recommend that a question of this kind should be asked only when an allegation of wilful default, grave negligence or breach of regulations is made. In those cases the wording of the question should be carefully considered to see that it fits the particular case. In other cases the question should be altogether omitted. The Court, in stating its conclusions

as to the cause or causes of the accident, will make it clear whether the accident was unavoidable or whether some extra care or better judgment on somebody's part would have prevented it. The Court should not concern itself with fine questions of whether civil negligence has been proved or whether some degree of moral blame was present.

107. We wish to emphasise in relation to Public Inquiries, as we have done in connection with Inspectors' Investigations, that even where there has been some human error it may be more valuable to bring out any defect in equipment in the air or on the ground, or any defective method of operation that has contributed to the accident, than to pin-point the individual failure that was the immediate cause of it. We consider that in the preparation of the case for the Crown every effort should be made to produce all the available evidence relating to such contributory causes and full emphasis should be laid on them by counsel presenting the case.

Recruitment of Inspectors and Investigating Officers

108. We heard evidence from the Chief Inspector that his Branch is not staffed to its establishment and that the work of the Branch could be speeded up if additional Inspectors could be obtained. Efforts have been made to strengthen the Branch but owing to the special qualifications needed it has not been possible to select enough suitable men. If accident investigation is to be effective in preventing future accidents, it is essential that the findings should be available as quickly as possible. To this end, every effort should be made to staff the Branch to its establishment and if necessary the establishment should be increased. The Chief Inspector has suggested to us that recruitment of Inspectors might be improved if prospective candidates did not have to wait until a selection board was held. If a simplified procedure could be applied, we consider it would be worth a trial.

109. It is however, essential that the right men should be obtained. To ensure this, it is essential that the remuneration of Inspectors should have some relation to that of air pilots and the remuneration of Investigating Officers should be related to that obtainable by aeronautical engineers employed by operators. We recommend that the salaries at present payable to Inspectors, and to Investigating Officers, should be closely examined from this point of view.

Accidents to Military Aircraft

110. When an accident to a military aircraft is suspected to have been caused by an engineering or design fault, the Accidents Investigation Branch is often asked to assist. Assistance is readily given when staff are available and in the period between 1st January, 1952, and 31st December, 1959, the engineering side of the Accidents Investigation Branch - the Investigating Officers - assisted in 407 military investigations. Their experience and expertise was obviously of value to the military authorities and this co-operation was also of value to the Branch in that it enabled them to keep up to date and gain experience which might otherwise have been missed. We therefore recommend that the Chief Inspector should continue to assist in the investigations into military accidents subject always to the prior claims of civil accidents.

Medical Participation in Accident Investigations

111. It has recently become the practice for the Chief Inspector to invite aero-medical specialists to attend the scene of a major accident with a view to assessing the effectiveness of seats and safety belts, and of other provisions for the safety of passengers and crew such as emergency exits. The specialists concerned have been Royal Air Force medical officers from the R.A.F. Institute of Aviation Medicine working in collaboration with the R.A.F. Institute of Pathology. These officers and the medical officers of BOAC and BEA are keenly interested in this work. We

consider that it is desirable that all accidents should be investigated from the medical point of view when the specialists consider they are likely to learn useful lessons regarding factors which could reduce the risk of an accident or improve the chance of survival when an accident occurs.

112. In addition to reporting on the effects of the accident on the occupants, medical specialists can often also contribute to the determination of the cause of an accident, or the elimination of possible causes. It was suggested to us that doctors should be included in all accident investigation teams, but we recognise that this may not always be possible, or necessary. We recommend however that aero-medical specialists should be called in at the outset where there is any possibility of human failure through illness, or other cause, or when lessons which could improve air safety may be learned.

PART VIII

SUBJECTS RELATED TO ACCIDENT INVESTIGATION

ICAO and Annex 13

113. The internationally agreed Standards and Recommended Practices on aircraft accident investigation are set out in Annex 13 to the Convention on International Civil Aviation and the law and practice in this country takes account of them. The principal tenet of Annex 13 is that the investigation of an accident is the responsibility of the State in which the accident occurs. The Chief Inspector suggested that there would be advantage in an international Accidents Investigation Branch under ICAO which could take over the inquiry into major accidents wherever they occur. There might indeed be much to be gained by such a change but, as the Chief Inspector pointed out, this would require Contracting States to surrender authority to a degree that makes the proposal unlikely to be generally acceptable at present. Many States however have not, and cannot hope in the near future to have, an expert accident investigation organisation and must rely on outside help as many do now. It might be profitable to explore, through ICAO, the advantages of setting up an organisation to be available to assist States on request.

Representation at foreign inquiries

114. The procedure laid down in Annex 13 is of particular interest to us in so far as it influences the procedure followed by another country in investigating an accident to a British registered aircraft abroad. If that country were a Contracting State, the United Kingdom would in most cases have the right to send an accredited representative to participate in the inquiry, but the facilities made available to him would depend upon the country's interpretation of Annex 13. In some cases full facilities would be afforded; in others a good deal less and in a few, none. We should naturally prefer that the investigation of any accident abroad to a British aircraft should be investigated in the spirit of Annex 13 under which the accredited representative of the United Kingdom would in most cases play a full part. We recognise that this is something which can come about only as a result of international co-operation and which would in some countries necessitate a change in the national law.

115. We have considered a suggestion that the United Kingdom accredited representative should prepare, on his return to this country, an independent report on the accident, which would be published. Although this might be useful in some cases, there would be many difficulties, especially if, for example, the accredited representative had occasion to disagree with the findings of the foreign inquiry. In such cases the opinion of the accredited representative would be available to the Minister but we recommend that his report should be confidential and published only at the Minister's discretion. It should be published only if it shows convincingly that the findings are unjustified or that the investigation was seriously unsatisfactory.

116. Reports of foreign investigations into accidents to British aircraft abroad should continue to be published in this country at the Minister's discretion but we recommend that, when they are published, it should be made clear on the cover that they are not the result of investigations carried out in this country, and the conclusions are not those of any United Kingdom authority.

Accidents occurring in Scotland and Northern Ireland

117. Representations have been made that Public Inquiries into accidents which occur in Northern Ireland should be held in Belfast. It was said that this would be in the public interest inasmuch as it is likely that most of the witnesses and passengers will be resident in Northern Ireland. In addition, passengers or their next of kin will desire to be represented by their solicitors and if, subsequently, civil proceedings become necessary, it is most likely that such proceedings would take place in the Courts of Northern Ireland. We see the force of this contention and that it applies equally to Scotland, and we recommend that, whenever possible, the Inquiry into an accident occurring in Scotland or Northern Ireland should be held there. This procedure has not already been followed on occasion in Scotland and should apply equally to Northern Ireland. We would not wish this to be an invariable rule since there might on occasion be special reasons for holding the Inquiry in London. We therefore recommend that the Minister, when he has decided that a Public Inquiry should be held into an accident which occurred in Scotland or Northern Ireland, should consult the Secretary of State for Scotland or the Government of Northern Ireland before deciding where the Inquiry is to be held.

118. The 1951 Regulations make provision for their application to Scotland and Northern Ireland and the present system works satisfactorily. We recommend however that Regulations 4, and 15 of the 1951 Regulations and Regulations 15 and 16 of the 1959 Regulations should be amended to make it clear they relate to occasions when it has been decided to hold a Public Inquiry in Scotland or Northern Ireland, and do not automatically apply whenever an accident occurs there. Provision should be made for holding reviews of Inspectors' Investigations in Scotland or Northern Ireland where appropriate. For the purpose of such reviews panels of Chairmen and Assessors should be maintained by the Lord President of the Court of Session and the Lord Chief Justice of Northern Ireland. We should consider it desirable that an Assessor from any of the panels should be available for a review in any part of the United Kingdom.

Colonies

119. As the Colonial Governments follow closely the United Kingdom legislation and practice they were invited through the Colonial Office to submit comments on their experience of the present legislation. The majority of the Colonies have only rarely had occasion to investigate major accidents and, from the comments we received, it was apparent that little serious difficulty had been experienced. In a number of cases some difficulty had arisen when a person who had been found blameworthy did not agree with the findings. This, of course, is an issue which arises in this country as well and if our recommendations are accepted and the Colonies accept them too, it is to be hoped that this difficulty will be overcome. When Colonies are faced with an investigation into a major accident, assistance is sought from, and is readily given by, the Chief Inspector. If necessary, Inspectors and Investigating Officers are sent out from this country and may be absent for long periods. This could on occasion affect the work of the Accidents Investigation Branch in this country as its staff is not large, but we can see that there is a moral obligation to assist Colonies in this way and also that advantage accrues to the Branch in that it gains experience which might otherwise have been missed. The Chief Inspector would welcome the making of specific provisions defining his duties in this matter. As any such provisions would presumably deal with accidents to aircraft not registered in the United Kingdom as well as to those so registered we make no recommendation about it. A related point that has been brought to our notice is that some guidance from the Law Officers in the United Kingdom, or the Treasury Solicitor, to the Law Officers of a Colony handling an aircraft accident inquiry might be of great benefit. We think that whenever possible it would be of advantage if technical and legal assistance were made available also to those former Colonies which have recently achieved independence.

Accidents abroad to British manufactured aircraft

120. Representations were made to us that it is in the interests of British aviation that full investigations should be made into accidents abroad to foreign registered aircraft of British manufacture. When the accident occurs in a country which is willing (and able) to make a thorough investigation there is no problem. In other cases witnesses have suggested that the Chief Inspector should be authorised to carry out an investigation subject to the co-operation of the country concerned, although the accident would normally be outside his jurisdiction.

121. Accidents abroad to foreign registered aircraft are not covered by our terms of reference but because it is clear that information which would be of value to the Accidents Investigation Branch in their normal work could be lost if such accidents were not fully investigated, we consider that we should record that the representation was made, and that we appreciate the force of the argument.

Coroners' Inquests

122. If an aircraft crash results in the death of any person, an inquest is held by a coroner. In carrying out their duties coroners may need to explore the circumstances leading up to the crash before they can satisfy themselves as to the cause of death. This may include taking technical evidence. An inquest into a death occurring in an aircraft accident is therefore a form of accident investigation. Both for this reason, and because we received representations that coroners' inquests may conflict with an Inspector's Investigation or a Public Inquiry, we have examined the inquest procedure in some detail. We have also discussed it with representatives of the Coroners' Society of England and Wales.

123. We were impressed by the point made by the Coroners' Society that, if a Public Inquiry is not held, the inquest is the only opportunity which a relative of the deceased, or his legal personal representatives, may have, of asking questions concerning the crash. The inquest amounts, in fact, to a form of public inquiry in every case where a person is killed and we have no doubt that the coroners' traditional freedom of action should stand. There is no good reason why a fatal aircraft crash should be treated differently from any other fatal accident. On the other hand, a coroner's jury is not a body equipped to assimilate difficult technical evidence and so long as it can form a broad picture of what happened, and reach a clear decision as to whether the proper verdict is "accidental death" or whether a verdict of manslaughter should be recorded against some person, it is clearly best that it should not become involved in a detailed consideration of the structure and equipment of the aircraft and the exact course of events leading to the accident.

124. In simple cases the inquest may properly be held and completed long before the investigation under the Regulations has been finished.

125. We recommend that, when it is impossible without a close and detailed investigation for the jury to reach even a broad conclusion as to the cause of the accident, or where for any reason a Public Inquiry has been directed, or is to be expected, the inquest should be adjourned until after the Public Inquiry or Inspector's Investigation. This must, though, be subject to an exception when criminal proceedings are contemplated. Adjournment is automatic when proceedings for murder or manslaughter are initiated but when no charge of murder or manslaughter is made, the inquest must precede the institution of criminal proceedings for statutory offences unless there is clearly no connection between the charge and the death. This rule was laid down in the case of R. v Burgess (36 Cr.App. R.1) and is now always followed. For this reason the inquest should be completed without awaiting the report of the accident investigation, whenever it is apparent that a statutory offence has been committed for which it is intended to prosecute.

126. Adjournment can sometimes be avoided, when Inspectors' Investigations only are held, if the Chief Inspector is able to make available to the coroner technical information. Inspectors have on occasion felt that under the present Regulations they could not, with propriety, give this assistance. We therefore recommend that the Regulations should be amended to permit the Chief Inspector at his discretion to make technical information available to coroners.

Prosecutions

127. Prosecution for offences arising out of an aircraft accident does not, as such, come within our terms of reference but the possibility of criminal proceedings can influence the timing of a Public Inquiry, and also affect the willingness of witnesses to assist in an investigation. We have examined the matter from these points of view.

128. First, to deal with the question of precedence as to the holding of a Public Inquiry and a prosecution, the view has been taken that it is virtually impossible to institute criminal proceedings after the conclusion and report of a Court of Public Inquiry, because the adverse findings of the Court may seriously prejudice the possibility of a fair trial. Further, the evidence available to sustain a prosecution is likely to become stale in awaiting the conclusion of the inquiry and so far as summary offences are concerned, the prosecution may become barred by lapse of time. For the same reasons it may be difficult to prosecute after an Inspector's Investigation although that usually does not receive the same publicity as a Public Inquiry and does not usually take so long. On the other hand, if criminal proceedings are disposed of first, the inquiry will be delayed, and may be prejudiced by their result.

129. In our view it is important that the cause of an accident be determined without delay, and we consider that normally the inquiry should take place before the institution of criminal proceedings. Delay in the determination of the cause of an accident may well have serious repercussions so far as public safety in the air is concerned. There may be cases, however, where the offence is of a particular gravity, and the cause of the accident is clear, in which it is desirable to prosecute before the inquiry. In such cases in order that there should be no confusion we recommend that one authority, probably the Law Officers, should decide on the question of precedence. Further, so far as summary offences against the Air Navigation Order and Regulations are concerned, we recognise that the power to prosecute must be effective and accordingly recommend that the period within which prosecutions for these offences may be commenced should be increased from six to twelve months so as to reduce the risk of a prosecution which has been deferred pending an accident investigation, or the necessity for which is first brought to light by the report on the investigation, being barred by lapse of time.

130. At either an Inspector's Investigation or a Public Inquiry, witnesses may be unwilling to testify freely through fear of subsequent prosecution. Thus the proper purpose of the investigation or inquiry which, as we have already stated, is the determination of the cause of the accident, may be impeded. Accordingly, so far as statements made during the course of an Inspector's Investigation are concerned, we think that these should not be produced to the police without the consent of the witness. Evidence given at a Public Inquiry is necessarily available to the police. It is not however the practice to use the evidence of a witness in support of a criminal charge against him unless, having been cautioned by a police officer, he elects to reaffirm the evidence he has given. We consider this to be desirable practice and trust that prosecuting authorities will continue to observe it.

PRESENT LAW AND PRACTICE GOVERNING LICENCE ACTION

Statutory Provisions

131. The statutory provisions relating to the powers of the Minister to grant, renew, suspend or revoke flight crew and maintenance engineers' licences are to be found in Articles 8, 16 and 54 of The Air Navigation Order, 1960, made in pursuance of the power conferred by Section 8 of the Civil Aviation Act, 1949. These provisions, with little modification, recently replaced those which were to be found in The Air Navigation Order, 1954, the Order in force at the time of our appointment. Under the Civil Aviation (Air Registration Board) Order, 1960, the power of the Minister to grant, renew, suspend and revoke aircraft maintenance engineers' licences has been delegated to the Air Registration Board.

132. There are several classes of licences ranging, in the case of pilots, from a Student Pilot's Licence to an Airline Transport Pilot's Licence, each with varying conditions and privileges attached thereto. In addition there are licences for Flight Navigators, Flight Radio Operators and Flight Engineers and, apart from flight crew, for aircraft maintenance engineers and aircraft radio maintenance engineers. The period of validity of a licence varies according to its class from six to twenty-four months. Apart from technical and medical qualifications its grant or renewal is conditional upon the Minister's "being satisfied that the applicant is a fit and proper person to hold the licence." No provision exists for any appeal against a refusal by the Minister to grant or renew a licence.

Minister's power to revoke, suspend, or vary a licence

133. Article 54 of the Order contains the provisions relating to the revocation, suspension or variation of a licence. The Minister is empowered "if he thinks fit" to suspend a licence provisionally "pending investigation of the case" and "on sufficient ground being shown to his satisfaction after due inquiry" he may revoke, suspend or vary a licence. Again in this respect no provision exists for an appeal from a decision of the Minister to revoke, suspend or vary a licence and no procedure is laid down relating to what is termed "due inquiry".

134. In practice these powers of the Minister have rarely been exercised and in recent years there have been no more than two or three cases where licences have been either suspended or revoked. Such cases as have arisen have usually been as a result of an accident investigation where the licence holder has been held to be at fault. Although suspension or other licence action may be taken under these provisions in circumstances where there has not been any accident, this has rarely happened.

135. In addition to the above provisions, Article 16 of the Order provides for the automatic suspension of a flight crew licence whenever the holder suffers personal injury which prevents him from undertaking the functions to which his licence relates or illness lasting for twenty days or more. Such suspension does not cease until the licence holder is pronounced fit after a medical examination or until the Minister exempts him from the requirement to undergo such an examination.

PART I

EXAMINATION OF PRESENT LICENSING SYSTEM

Circumstances in which licence action may be taken

136. Although our terms of reference cover the question of licensee action as well as accident investigation the two subjects are not necessarily linked. Whilst licensee action is most likely to arise as the result of an accident, action on a licence may be taken in cases where no accident has occurred.

137. In view of what we have said in paragraph 10 we do not consider it necessary to dwell upon the provisions relating to automatic suspension on medical grounds, contained in Article 16 of the Order. We should say, however, that we have received no representations concerning these provisions which in our view appear to be both necessary and satisfactory.

Purpose of licence action

138. It appears to us that licensee might be revoked, suspended or varied for either of two reasons - to prevent the holder endangering the lives or property of others or as a punishment. In our opinion the first reason should always be paramount; a licence should rarely, if ever, be revoked, suspended or varied for punitive reasons only.

Persons who may hold a licence

139. The issue or renewal of a licence by the Minister is conditional upon his being satisfied that the applicant is "a fit and proper person to hold the licence". General guidance such as this is in our opinion clearly desirable and in our view the form of words used here to describe a suitable person to hold a licence is satisfactory. We assume that if the Minister were to contemplate the revocation of a licence under Article 54, he would be guided by whether the person concerned no longer satisfied this description. In our view a licence should be revoked, as distinct from being suspended, only on the ground that a person is no longer a fit and proper person to hold it.

140. Some witnesses have represented to us that the Regulations should define more precisely the qualifications for holding a licence and the grounds on which a licence might be revoked or suspended or not be renewed. We consider that it would be undesirable to make any rigid rules on these matters. Where public safety is involved the Minister should have a wide discretion. The Minister should however state the grounds on which he proposes to take licence action in any particular case.

Due Inquiry

141. We note that the words "after due investigation by him" which were to be found in Article 34 of The Air Navigation Order, 1954, dealing with the power of the Minister to suspend, vary or revoke a licence have been replaced in the 1960 Order by the words "after due inquiry". The omission of the words "by him" might be thought to effect a change whereby the Minister is empowered to take licensee action without any inquiry other than an accident investigation held in this country or abroad. We do not think however that this is the case since the new words "due inquiry", which are to be found in other legislation, have been interpreted as meaning that the subject matter of the inquiry must be given a fair hearing, and that the findings of other proceedings cannot be accepted without giving the person concerned a right to be heard (General Medical Council v Spackman (1943) A.C. 627).

142. When there has been an accident investigation we consider it right that the report on the investigation should be considered by the Minister as part of his inquiry. But other relevant evidence should also be taken into account, and this is particularly important when the accident investigation was held under a foreign jurisdiction. In a case, for example, such as the Munich accident, which was investigated only by a German Court of Inquiry, the Minister would not be able to take licence action solely on the finding of the German Court without hearing such evidence as the pilot may wish to tender and we consider this is right. We recommend that licence action should be taken only after an inquiry conducted on behalf of the Minister for this specific purpose. The Minister's Inquiry should be directed, not only to the facts of any particular accident, but to the whole of the licence holder's record.

PART XI

POSSIBLE CHANGES IN LICENSING PROCEDURE

Right of Appeal and Appeal Boards

143. Under the present procedure governing the issue, renewal, revocation etc. of licences, the Minister may revoke, suspend or vary a licence on being satisfied after due inquiry that there is sufficient ground for his action. The holder has no right of appeal. This is clearly not a satisfactory state of affairs. We therefore recommend that provision should be made for the setting up of independent Appeal Boards and that whenever the Minister proposes to take action which would entitle the person concerned to appeal (see para. 144) he should be informed of his right to do so. An Appeal Board should have access to all the evidence which it considers relevant, as well as the report of the Review Tribunal if the licence action arose from an accident which has been reviewed, or the report of the Inspector or the Court, as the case may be, if there has been no review. When an appeal is made, the decision would not be effective until confirmed by the Board.

Appealable Issues

144. We recommend that the licence holder should be entitled to appeal to an Appeal Board whenever the Minister proposes after due inquiry to revoke, suspend or vary a licence, or refuses to issue or renew a licence because the applicant is in his opinion not a fit and proper person to hold a licence. It is not our intention that the Board should be required to hear appeals against disqualification resulting from the failure of the person concerned to satisfy medical or technical requirements.

Provisional Suspension

145. We recognise that, for safety reasons, the Minister must have the power to suspend a licence provisionally and that such a suspension must be effective immediately. We recommend however that the period of provisional suspension should in the first instance be limited to thirty days. Against such provisional suspension, which should be on safety grounds only, never punitive, the holder would have no right of appeal. If, for any reason, the Minister desires to extend the provisional suspension beyond thirty days, the person concerned should be able to appeal to a Board and the Minister should then be required to show cause why the provisional suspension should be continued.

Composition of an Appeal Board

146. We recommend that an Appeal Board should consist of a Chairman, who should be a Queen's Counsel, sitting with two Assessors. We further recommend that the Chairman and the Assessors should be appointed by the Lord Chancellor (or the Lord President of the Court of Session or the Lord Chief Justice of Northern Ireland) and should normally be selected from the panels maintained by him for Review Tribunals. It is of the utmost importance in relation to licence appeals that it should be possible to constitute a Board without delay. When an appeal is made by a person whose licence is being attacked following an accident, and the investigation into that accident formed the subject of a review by a Review Tribunal, the members of the Appeal Board should not be those who undertook the review. As with Review Tribunals so with Appeal Boards it may sometimes be desirable to appoint persons from outside the panels, and provision should therefore be made for this. It has been suggested to us that the licence question might be considered by the Review Tribunal, or by the Commissioner and Assessors holding the Public Inquiry, either at the time of the Review or Inquiry or later. This might in some instances effect a saving of time and trouble but we consider it better to keep the licence action quite separate from the ascertainment of the cause of the accident.

Representation before Appeal Board and Form of Decision

147. When a person is informed of proposed licence action and of his right of appeal, he should also be informed that he may, if he wishes, be legally represented at the hearing. The Appeal Board should not issue a detailed report but should confirm, vary or reverse the Minister's decision and state briefly the grounds on which it does so.

Appeal against licence action following a Foreign Accident Investigation

148. We have recommended that a Review Tribunal should not be available to review the findings of a foreign investigation into an accident abroad to a British aircraft. If the Minister proposes to revoke or suspend the pilot's licence, the pilot should have a right to appeal to an Appeal Board. In such a case we recommend that the Board should be empowered to consider the foreign report and all the available evidence. Although for reasons of international comity we do not consider that the report of a foreign investigating body should be open to review in the United Kingdom, nevertheless we feel that when it comes to licence action the Minister and the Appeal Board should not have their hands tied by the foreign report and recommend that they should be able to look at any available evidence.

Miscellaneous points on Licence Suspension

149. It was suggested to us that the Criminal Courts should have the same power to suspend licences which they have in respect of driving licences. We gave this matter careful consideration but decided that it would be preferable for the power to remain in the hands of the Minister. There are not many occasions when the suspension of a licence is justified and before this step is taken the whole of the licence holder's record should be carefully examined. We consider that the Minister, or the Air Registration Board as his delegate, is in a better position than a judge or magistrate to decide what action is appropriate in a particular case.

150. We have already said that in our opinion the primary reason for the suspension of a licence must be that it is in the public interest and that the concept of punishment should be avoided. When a licence is suspended it should mean, not that the holder is no longer a fit and proper person to hold it (if he were, the licence should be revoked) but rather that, for safety reasons he should for the time being be closely watched. We therefore recommend that whenever a licence is suspended the holder should be notified that he may request its restoration after the lapse of a suitable period, provided that he has satisfied the appropriate examiners of, for example, his technical knowledge or his instrument flying ability. The conditions for restoration of the licence would naturally be dependent upon the type of licence and the circumstances leading up to its cancellation, but they should in each case be designed to demonstrate that the suspension and re-test are aimed at a higher level of competence and therefore of safety.

151. If in the course of an accident investigation it becomes apparent to the Inspector that a licensed person has not acted in a responsible way and it appears likely that he may endanger others if he continues to exercise the privileges of his licence, we recommend that the Ministry or the Air Registration Board, as appropriate, should be informed so that action with regard to the licence may be taken if thought fit. If licence action is to be taken it should always be taken promptly.

152. We considered a suggestion that the Court at a Public Inquiry should make a recommendation, where appropriate, regarding the cancellation or suspension of a licence. As stated in para. 101, we are opposed to this. In our opinion the Court should be able to concentrate on determining the cause of the accident and should not be concerned with action to be taken on licences.

Recommendations

153. Our recommendations are as follows:-

- (1) The main purpose of an accident investigation is to determine the cause of the accident with a view to preventing similar accidents in the future. This should be stated in the Regulations. (Para. 62).
- (2) The Accidents Investigation Branch should not be divorced from the Ministry of Aviation. (Para. 64).
- (3) The Chief Inspector of Accidents should continue to report direct to the Minister. (Para. 65)
- (4) Before deciding not to investigate an accident the Chief Inspector of Accidents should consider any representations made by the Director of Aviation Safety. (Para. 66).
- (5) Wherever appropriate, accident reports should refer to previous accidents of a similar nature. (Para. 66).
- (6) More accidents should be investigated by the Accidents Investigation Branch. (Para. 68).
- (7) The Accidents Investigation Branch ought also to investigate the more serious incidents. (Para. 69).
- (8) If the report of an accident investigation is not published, it should be available on demand to any member of the public. (Para. 72).
- (9) Accident reports should deal with contributory causes as well as the immediate cause and be more detailed: if necessary, technical details should be given in appendices to the report. (Para. 75).
- (10) Consideration should be given to providing more information in the annual Survey of Accidents published by the Ministry. (Para. 77).
- (11) The various departmental committees concerned with air safety should be reviewed and any overlapping eliminated. (Para. 78).
- (12) The Chief Inspector should be empowered to co-opt experts when he considers it necessary and practicable to form a team to investigate an accident. If the actions of the pilot are likely to be called into question, a pilot with similar experience should invariably be included in the team. (Para. 79).
- (13) Inspectors when conducting a preliminary investigation should have the same powers as they have when carrying out a full investigation. This should be made clear in the Regulations. (Para. 80).
- (14) A report on the preliminary investigation should continue to be prepared and the Regulations should expressly provide for it. The Regulations should also provide that in the case of minor accidents the Preliminary Report may be treated as the Final Report. (Para. 81).

- (15) The Chief Inspector should be relieved of the responsibility for taking the action he is required to take at present under Regulation 7(5) when a person is likely to be blamed. (Para. 84).
- (16) Provision should be made for the setting up of independent Review Tribunals to review the findings of an Inspector's investigation, at the request of any person or organisation having objections to any finding which affects him or it in a draft report. (Para. 86).
- (17) The Review Tribunal should be able to sit in private or in public. (Para. 86).
- (18) If a review is requested on frivolous grounds, the Tribunal should be empowered to award costs against the person concerned. (Para. 87).
- (19) If an Inspector's investigation is reviewed, the report of the Review Tribunal only should be published. (Para. 87).
- (20) Review Tribunals should not review the findings of a Public Inquiry or of a foreign accident investigation. (Para. 90).
- (21) The Chairman of a Review Tribunal and the Assessors should be appointed by the Lord Chancellor who should maintain panels of suitably qualified persons. (Para. 91).
- (22) There should be a right of appeal to the High Court from the decision of a Review Tribunal, but only on a point of law. (Para. 92).
- (23) Provision should be made in the Regulations for the reopening of an Inspector's investigation if new and important evidence becomes available. (Para. 93).
- (24) The Minister should continue to decide when a Public Inquiry is necessary and he should be given the power to direct a Public Inquiry on a particular issue, or issues. (Para. 95).
- (25) There should be a right of appeal to the High Court from the findings of a Public Inquiry but only on a point of law. (Para. 96).
- (26) Persons wishing to be made parties to the proceedings at a Public Inquiry should be able to apply in writing to the Court before the Inquiry opens; such applications could be considered by the Court at a preliminary hearing. (Para. 98).
- (27) Provision should be made for applications to be considered by the Court at the preliminary hearing for the admission, without formal proof, of any documents. (Para. 99).
- (28) Parties should be allowed at the preliminary hearing to apply for inspection of any relevant documents. (Para. 99).
- (29) Panels of persons suitable for appointment as Commissioner or Assessor at a Public Inquiry should be maintained by the Lord Chancellor. (Para. 100).
- (30) The Chief Inspector of Accidents or an Inspector of Accidents should not be appointed as Assessor at a Public Inquiry; the provision for this in the Regulations should be deleted. (Para. 100).

- (31) The Court at a Public Inquiry should not be concerned with action on licences or other documents and the power for the Court to make such recommendations should be deleted from the Regulations. (Para. 101).
- (32) The Regulation which empowers the Court at a Public Inquiry to order a party to pay the costs or part costs of the Inquiry should be deleted. (Para. 102).
- (33) Where the Attorney General is in possession of information which suggests that a high degree of blame for an accident ought to be attributed to some person or organisation he should cause written notice of the allegation to be served before the Inquiry. (Para. 105).
- (34) The Court should not be asked to answer a question as to whether the accident was due to the wrongful act or default of any party unless an allegation of wilful default, gross negligence or breach of the Regulations is made. In those cases the wording of the question should be carefully considered to see that it fits the particular case. (Para. 106).
- (35) The salaries of Inspectors and Investigating Officers should be reviewed. (Para. 109).
- (36) The Accidents Investigation Branch should continue to assist in investigations into military accidents subject always to the prior claims of civil accidents. (Para. 110).
- (37) Aero medical specialists should participate in accident investigations whenever there is a possibility that useful lessons may be learned. (Para. 112).
- (38) The report of the United Kingdom accredited representative at a foreign investigation into an accident to a British registered aircraft should be published only at the Minister's discretion and then only if it shows that the findings are unjustified or that the investigation was seriously unsatisfactory. (Para. 115).
- (39) If the report of a foreign investigation into an accident to a British registered aircraft is published in this country, it should be made clear that it is not the result of an investigation held in this country, and that the conclusions are not those of any United Kingdom authority. (Para. 116).
- (40) Whenever possible the Public Inquiry into an accident which occurred in Scotland or Northern Ireland should be held there. (Para. 117).
- (41) When the Minister has decided to order a Public Inquiry into an accident which occurred in Scotland or Northern Ireland he should consult the Secretary of State for Scotland or the Government of Northern Ireland before deciding where the Inquiry is to be held. (Para. 117).
- (42) Regulations 14 and 15 of the 1951 Regulations and Regulations 15 and 16 of the 1959 Regulations should be amended to make it clear that they relate to occasions when it has been decided to hold a Public Inquiry in Scotland or Northern Ireland and do not automatically apply whenever an accident occurs there. (Para. 118).

- (43) It is desirable that the Coroner's Inquest should be adjourned until after the Public Inquiry or Inspector's Investigation if the jury cannot decide on its verdict without a close and detailed investigation of the circumstances of the accident (except when criminal proceedings are contemplated). (Para. 125).
- (44) The Regulations should be amended to permit the Chief Inspector, at his discretion, to make information available to Coroners. (Para. 126).
- (45) When the inquiry into the cause of an accident is likely to conflict with criminal proceedings one authority should decide on the question of precedence. (Para. 129).
- (46) The period within which prosecutions for offences against the Air Navigation Order and Air Navigation Regulations may be commenced should be increased to twelve months. (Para. 129).
- (47) The Minister should not take licence action following a foreign investigation until the licence holder has been given the opportunity to state his case, and an inquiry into the circumstances has been conducted on behalf of the Minister. (Para. 142).
- (48) Provision should be made for the setting up of independent Appeal Boards to consider appeals against licence action. (Para. 143).
- (49) A licence holder should be entitled to appeal to an Appeal Board whenever the Minister proposes, after due inquiry, to take action against his licence. (Para. 144).
- (50) Provisional suspension of a licence should be effective immediately but the original period of provisional suspension should be limited to thirty days. If the Minister desires to extend provisional suspension beyond thirty days, the person concerned should be able to appeal to an Appeal Board. (Para. 145).
- (51) The Chairman of an Appeal Board and the Assessors should be appointed by the Lord Chancellor, and should normally be selected from the panels maintained by him for Review Tribunals. (Para. 146).
- (52) When an Appeal Board is considering proposed licence action following a foreign investigation, the Board should be empowered to consider the foreign report and all the available evidence. (Para. 148).
- (53) Whenever a licence is suspended, its re-issue should be conditional upon the holder having satisfied the appropriate examiners of his professional competency. (Para. 150).
- (54) If it becomes apparent in the course of an accident investigation that a licence holder may endanger others if he continues to exercise the privileges of his licence, the Ministry or the Air Registration Board should be informed. (Para. 151).

FINAL OBSERVATIONS

Final observations

154. We embarked on our task with open minds, prepared to consider all criticisms, fundamental or detailed, of the United Kingdom systems of accident investigation and licence control. From the evidence as a whole we are satisfied that this country stands high (as it ought to do) among the countries of the world in the fairness and efficiency of its investigations and its control of licensing. We see no reason for any drastic re-organisation but we came quite definitely to the opinion that it was wrong that final responsibility should rest in the case of 'Inspectors' Investigations with the Chief Inspector of Accidents and in the case of licence action with the Minister. It is no reflection on the way that present or past holders of these offices have discharged their duties to say that the position would be improved by the introduction of provisions for review, or the hearing of appeals, by completely independent persons. Indeed the Chief Inspector and the Ministry have both supported these proposals. We regard our recommendations in this respect as the most important part of our conclusions.

155. We wish to emphasise one further point. We believe that not enough accidents are investigated at present and that, in the widest interests of air safety, more information should be made available to the interested public, both in the sense of providing more detail about those accidents which are investigated and extending the range of accidents into which inquiry is made. We believe that more recommendations should be included in reports on accidents, aimed at the elimination of all contributory causes which may lead to accidents in the future and the introduction of improvements which can lead to an increase in safety in any aspect of aircraft operation or equipment.

156. The implementation of our recommendations would, we believe, go far to remove any apprehensions of injustice and to ensure that accident investigation and licence control in this country make the greatest possible contribution to safety in the air.

PART XIV

ACKNOWLEDGMENTS

Acknowledgments

157. We should like to record our appreciation of the co-operation we have received from Mr. P. G. Tweedie, C.B.E., the Chief Inspector of Accidents, who readily made available to us all the information we required.

158. We are also indebted to the many persons and organisations who have helped us by submitting written memoranda and, in many cases, by attending to give evidence. We were impressed by the trouble taken by many of those in submitting proposals for improvements and in supporting their views by detailed arguments and reference to particular cases.

159. Throughout our inquiry we have been extremely well served by our joint Secretaries, Mr. E. J. Martin and Mr. W. C. Beckett. The former came to us equipped with valuable technical experience and the latter with a wide knowledge of the relevant law. Both have been unstinted in the labours they have undertaken for us and they have used great care and skill in the collection of evidence, the preparation of materials for consideration at our meetings and the drafting of the report. We express our warm gratitude to both.

DAVID GAIKNS (Chairman)

W. L. KEYWOOD

PETER C. MASHFIELD

H. C. I. ROGERS

F. TYMMS

E. J. MARTIN }
W. C. BECKETT } Joint Secretaries

23rd December, 1960.

LIST OF WITNESSES

A - The Committee received written evidence and information from the following:-

Air Ministry
Air Registration Board
Association of British Aero Clubs
Attorney General, The Rt. Hon. Sir Reginald Manningham-Buller, Bt., Q.C., M.P.

Major K. M. Beaumont
Dr. K. G. Bergin
Mr. Frank Bewick
Mr. P. J. Stuart Bevan
Bristol Aeroplane Co. Ltd.
British Air Line Pilots Association
British European Airways
British Independent Air Transport Association
British Insurance Association
British Overseas Airways Corporation

Mr. G. A. Caspell
Mr. H. Caplan
Chief Inspector of Accidents, Ministry of Aviation
Colonial Office
Coroners' Society of England and Wales
Mr. J. T. Craig
Crown Office

Director of Public Prosecutions

Flight Safety Foundation

Guild of Air Pilots and Air Navigators
Air Marshal Sir Charles Guest, K.B.E., C.B.

Captain W. H. Hankin
The Rt. Hon. Sir Lionel Heald, Q.C., M.P.
Home Office

Incorporated Law Society of Northern Ireland

Captain C. C. Jackson

Lloyd's Aviation Underwriters' Association
Lord Chancellor's Department

Mr. John Megaw, Q.C.
Merchant Navy and Airline Officers' Association
Mr. A. A. Mocatta, Q.C.
Ministry of Aviation
Ministry of Transport - Chief Inspecting Officer of Railways

Newspaper Proprietors' Association

The Hon. Mr. Justice Phillimore

A (continued)

Royal Aeronautical Society
Royal Aircraft Establishment

Society of British Aircraft Constructors
Society of Licensed Aircraft Engineers
Major Oliver Stewart, M.C., A.F.C.

Captain J. Thain
Transport Flight Safety Committee
Treasury Solicitor's Department

Mr. G. J. Warcup
The Hon. Mr. Justice Winn

B - The Committee heard oral evidence from the following:-

Represented by

Accidents Investigation Branch, Ministry of Aviation

Chief Inspector of Accidents
Senior Inspector of Accidents
Chief Investigating Officer

{ Mr. P. G. Tweedie, C.B.E.
{ Mr. H. K. Gordon-Burges
{ Mr. E. Newton

Air Ministry

R.A.F. Institute of Aviation Medicine
Deputy Director of Aviation Medicine

{ Squadron Leader D. I. Fryar
{ Group Captain J. H. Lewis

Air Registration Board

Mr. W. Tye, O.B.E.

Mr. Roland Adams, Q.C.

British Air Line Pilots Association

{ Captain R. H. Ayers
{ Captain N. V. Bristow
{ Mr. L. F. Coombs
{ Mr. D. Follows, M.B.E.
{ Captain D. F. O'Sullivan,
D.F.C.

British European Airways

{ Mr. A. F. Buck
{ Mr. J. W. Gibbs
{ Mr. I. Grant-Murray
{ Captain E. W. Lowden
{ Mr. H. E. Marking
{ Dr. F. S. Preston

British Insurance Association

{ Mr. R. C. Bardell
{ Mr. G. E. Clair
{ Mr. Alan Hunter

British Overseas Airways Corporation

{ Dr. G. Bennett
{ Mr. D. G. Dodson
{ Mr. B. J. Folliard
{ Mr. K. H. Staple

B (continued)

Appendix (continued)

Mr. K. S. Cargmael, Q.C.

Coroners' Society of England and Wales

{ Mr. C. F. J. Baron
{ Mr. H. G. Broadbridge
{ Mr. G. L. B. Thurston

Air Marshal Sir Charles Guest, K.B.E., C.B.

Guild of Air Pilots and Air Navigators

Captain D. J. Turber

Captain C. C. Jackson

Ministry of Aviation

{ Mr. M. M. V. Custance, C.B.
{ Mr. E. E. Goodison
{ Mr. W. E. B. Griffiths, C.B.E.

Royal Aeronautical Society

Air Commodore Sir Vernon
Brown, C.B., C.B.E.

Captain J. Thain

Treasury Solicitor's Department

{ Mr. R. L. A. Hankney, C.B.
{ Mr. A. W. G. Kean

Mr. G. J. Warcup